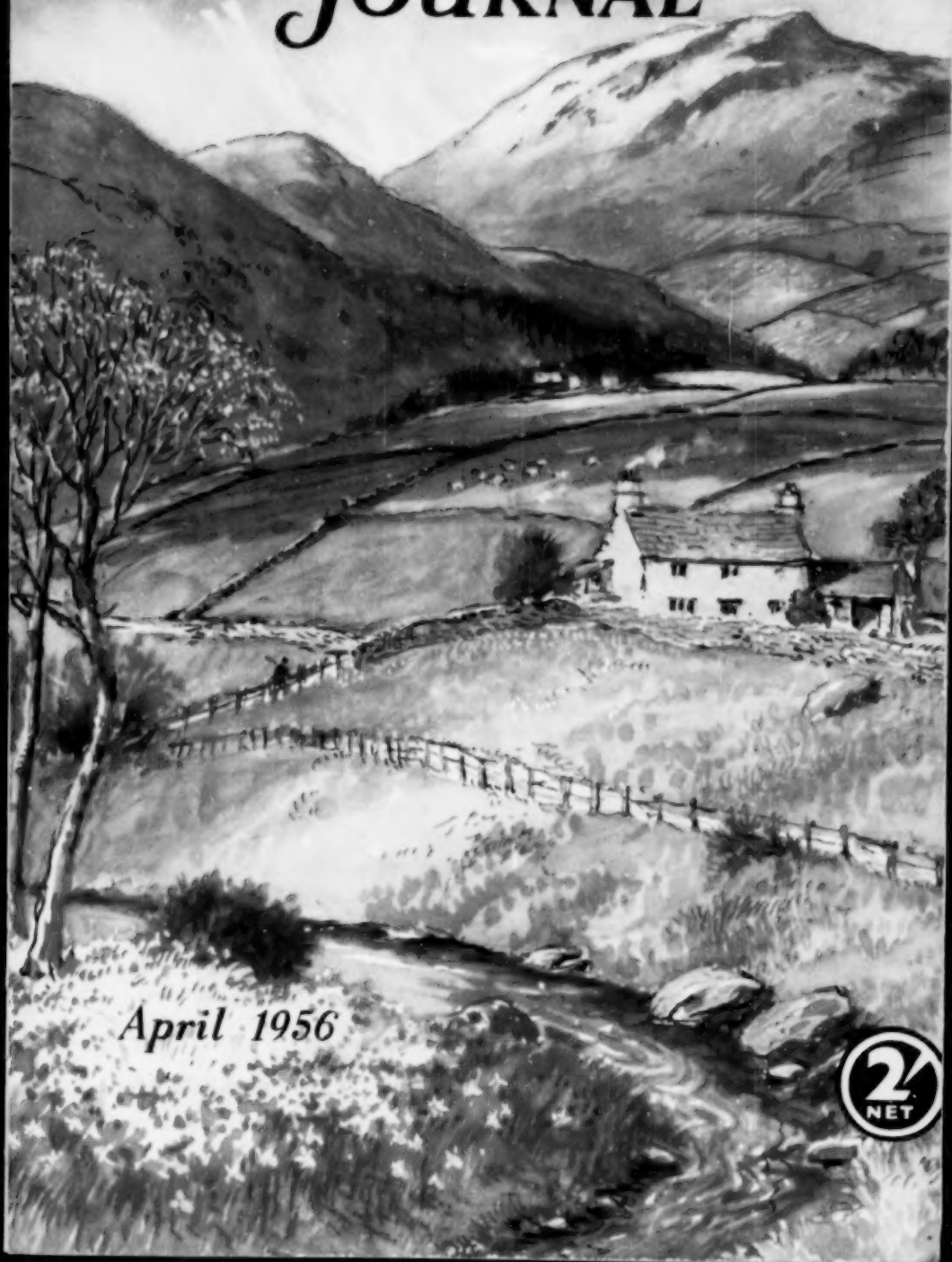
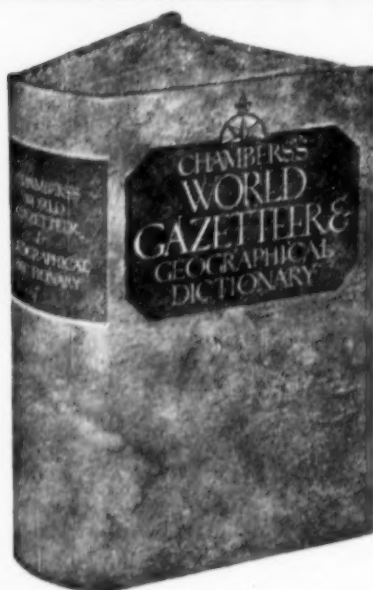


CHAMBERS'S JOURNAL



April 1956





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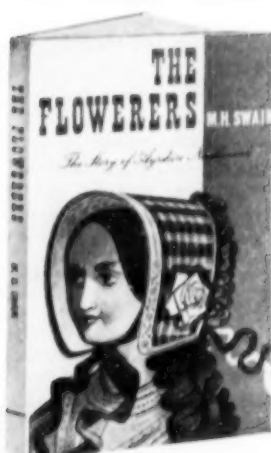
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A Don Quixote of Mean Streets

HUGH QUINN

IN the gathering dusk, slowly the rickety old handcart came round the corner. One of the wheels poised precariously for a moment on a huge cobblestone, and then fell with a jolt, repeating the switchback manoeuvre at intervals.

There was nothing strange about the handcart to attract attention; nothing unusual in the rubble-heap of furniture which was its burden. Nor was there anything unfamiliar in the figure of the man who pushed the handcart. It was old Handy Hammer, furniture remover for the district. His speciality was a moonlight flit. This was, however, but a side-line. He was jobbing man to a slum landlord, and an authority on the repair of a ramshackle house, from the door-scraper up to the ridge-tile.

'It is only another moonlight flit,' said Scotchy, leader of the clan of boys who congregated nightly in a near-by gateway, there to tell ghost stories, or to discuss in detail the plot of the next play to be performed in a backyard—where and when available.

White faces appeared at several windows, attracted by the noise of traffic at such an hour. Between curtains pulled aside, they peered at the handcart, scrutinising in detail, as much as the gathering darkness would permit, the furniture of the newcomers. In an age devoid of events as the oscillations of a pendulum anything was an incentive to prying curiosity and research. 'It is only another moonlight flit,' the watchers thought, though, with the inertia of habit, they kept on looking.

But Mrs McGinty, whose habits were not furtive, came boldly out to her door and stood watching with arms folded—a gesture peculiar to women standing at doors. On her face was the usual scowl, but the scowl expressed rather general dissatisfaction with life than enmity towards the individual. Indeed, she was considered a good neighbour, and was known to be kind at bottom, but in a quiet, undemonstrative way.

'Looks like a moonlight flit,' remarked a timid old lady who lived next door. Emboldened by the presence of Mrs McGinty,

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whom she had seen with the tail of her eye when peeping through the curtain, she also had come out to the doorstep.

'God help them and their wee bits of sticks,' exclaimed Mrs McGinty, 'whomsoever they be.' Mrs McGinty had a habit, at times, of mixing her dialect with grandiloquent archaisms.

'I don't see any people with the handcart,' ventured the timid old lady.

'They're coming in the next barrowful,' came the short answer. Ashamed of having betrayed her feelings, Mrs McGinty was trying to recover.

In the meantime, Scotchy, acknowledged leader of the clan, stood at the gateway surrounded by his faithful henchmen, ready to make comment.

Round the corner came a tall, gaunt woman, with the relics of beauty still. She moved with effortless glide, her eyes fixed in front at the handcart which carried her meagre belongings.

Just at that moment, Oul' Alick, the lamp-lighter, came round the corner, the pin-point light at the top of his long pole dancing like an impish will-o'-the-wisp in the darkness. With the legerdemain of practice, he pushed open the pane of the lamp, inserted the long pole, gave it a dexterous twist, and the yellow light flared up—all in a split second!

'Presto! Nick-na-gobla!' cried Scotchy. He had borrowed the phrase from a tent magician in the Chapel Fields, then a gay spot of the 'nineties.

As the woman passed through the cone of light cast by the street-lamp the children gasped in astonishment. Over a black lustre skirt she wore a magnificent cloak of the dolman variety, shimmering with black, twinkling beads. But it was the bonnet which attracted the attention of the children. It was quite new, and festooned with the decorative flora-and-fauna style of the period. A bunch of cherries kindled wine-red in the light, so life-like they made the children's teeth water. Hovering near the cherries a strange little bird, with outstretched pink wings, poised in flamingo flight.

Scotchy was too astounded to speak. He had expected to see the usual procession of poor camp-followers trekking behind—the father with bowed, subdued looks, the mother with a child in her arms, and bigger children, perhaps, trailing at her skirts, carrying household bric-a-brac too frail and precious to

trust to the cart. But the strange appearance of the newcomer had set him thinking. Dressed in such rich apparel, what was this mysterious being doing in their midst? To Scotchy, keen student of the drama, the answer was quite simple—she was a Woman with a Past!

'She's jist come from some grand funeral,' said Midget Mooney, one of Scotchy's aptest pupils, imitating his master's style of comment.

'Have a bit of wit,' said the master in mild reproof. 'Did ye see the way Oul' Alick flashed the limelight on—I mean the lamp-light—when she sailed round the corner like an actress coming to take a curtain? Chums, I have it. She's a broken-down actress. No ordinary five-eight cud walk like that.'

All the children were silent. Had not Scotchy spoken? The great Scotchy, who was an authority on the drama, and went week after week to the Theatre Royal where lurid melodrama was the vogue. There he enjoyed the thrills and studied the technique of the plays, to return with new histrionic ideas. Night after night, at rehearsals of their backyard play in the old gateway, he tried to invest its crude realism with the glamour of the theatre.

THE handcart had stopped at the door opposite Mrs McGinty.

'I'll take the bundle of clothes up first,' said Handy.

'Ye know best what to do by now, Handy,' sighed a voice, thin and toneless.

The watching women had left their peeping-tom positions and were standing in the street beside closed shutters, each with an iron pin, not unlike a small poker, in her hand, ready to secure the shutter for the night. It was gossip-time in the streets, and the women, under pretence of minding their own business, were able to discuss the affairs of others. Naturally the talk was of the newcomer.

'I nivir saw sich finery since Civil Jimmy the grocer's funeral,' remarked the timid woman, fondling with ostentation the iron pin in her hand, which, she felt, justified her presence as a gossip.

'Aye, she's a step above buttermilk, ye can see that,' said Mrs McGinty, 'let her be whom she will.' With wondrous skill she could ring the changes on her treasured hoard of archaisms. Scorning all subterfuge, she had closed her shutter, fixed in the iron pin, and

A DON QUIXOTE OF MEAN STREETS

was standing at the doorstep with arms folded—her ancient habitual pose.

Scotchgy, at the gateway, when he saw where the handcart stopped, became excited. 'Good tobacky, it's them pair of haunted rooms in that empty house! I know what she's after, lads! She wants to see the way a ghost walks.' And then, in a stage whisper: 'Advance all, Indian file.'

Scotchgy and Midget, with the troop of child braves following, walked warily to the handcart.

Handy Hammer, with the skill of practice, had soon transferred the trifling bits of furniture to the rooms above. Two chairs—the last burden—dangled from his arm. He held out his free arm to take a small parcel, tied neatly in brown-paper, which the woman had taken from beneath the dolman.

'No, no,' the woman said, shrinking back. 'I can manage, thank ye.'

'Did ye see how she hung on to the parcel?' whispered Midget with awe. 'That's an infernal machine. I thought I heard it tick.'

'Infernal machine! Not at all,' pooh-poohed Scotchgy. 'Where's yer eyes? It's only Frenchy men with pointy beards and slouch hats carry them things about.' With a mysterious whisper: 'I know. It's the family jewels. That's the first thing they nab when they do a bunk.'

The mysterious stranger turned her head, moving as on a pivot, and gazed on Scotchgy with the unspeculative stare of a wax figure.

Scotchgy had seen that look in the eyes of a dead man once, before the redundant eyelids had been weighed down with pennies. His legs grew numb with dread; a nightmare terror held him with rigid grip. And then he heard the familiar voice of Handy Hammer with bantering tone: 'Now then, lads of the village, keep off the touchline. This is a league match.'

How glad he was to hear that mundane voice. The tension was relieved. He was again on familiar theatrical ground, where events happen to schedule. Here was the comic interlude of a play, occurring in real life with no embarrassing fact to explain away by dubious, imaginative effort.

When he woke from his reverie, the woman was already fading in the darkness of the stairway, and Handy was going down the hilly street at breakneck pace, holding on to the handcart, leaving the rest to gravity. The women had closed their shutters and retired.

The children had gone away. Scotchgy and Midget stood together in the street whispering. Mrs McGinty was still standing at her door, eyeing the pair with disfavour. They paid no heed to her, however, engrossed as they were in discussing the identity of the mysterious stranger.

'Rehearsal in the gateway at nine sharp,' said Scotchgy at last. 'Don't forget to warn the cast. Salaam!' and he made a sweeping gesture with his arms, and a solemn obeisance.

'Salaam!' said the sedulous neophyte, imitating the gesture. It was the Arab method of farewell, imported direct from the Theatre Royal by Scotchgy.

'You're a pair of mountebanks and no mistake,' snapped Mrs McGinty, peeved that the conspirators had ignored her presence. She turned on her heel, closing the door behind her with a bang. It was her valedictory gesture when annoyed.

The street was deserted. The audience had departed. The first act of the little drama from life had ended with a quiet curtain.

IN the old gateway that night the children had met for rehearsal of their backyard entertainment, known throughout the district as The Oul' Farthing Show. Scotchgy was there, of course, with his old friend, Midget Mooney. Scotchgy was really fourteen. But his stunted growth and frail physique gave him the appearance of a lad of nine. Taking advantage of this, he had thrown in his lot with the younger children, whose acknowledged leader he became. Better the first man in a gateway, he thought, than one of the rank and file in the dangerous rough-and-tumble life of the hobbledehoy.

Scotchgy had been found by Handy Hammer, some time back, standing shivering in a gateway one night of wind and storm. Handy, who lived alone, was glad to adopt the homeless waif, and wheeled him in the old handcart to his bachelor home, where the pair of them 'lived rightly', as the phrase had it, ever since.

All that Scotchgy would tell about himself was that his mother was an actress in Glasgow till her voice broke and she had to start work in the mill. The neighbours christened him Scotchgy. He made a living by selling newspapers and wax vestas, going odd messages, and haunting the docks and railway stations to help carry light bags for the passengers.

The children waited for Scotchgy to talk about

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the next play, but somehow, to-night, he could not concentrate on the business of production. His thoughts would wander, and his eye travel, to the window almost opposite, where the leading lady of his dreams was no doubt quietly waiting her cue to reappear.

And then a white face appeared at the upper window, spectral and wan against the backstage darkness of the room. Scotchy was no longer afraid. His dramatic instincts were aroused. The plot was developing along familiar, theatrical lines. The heroine was waiting—for what? Excitedly he whispered to Midget: 'She's on the lookout for a letter—missive.'

'Sure, there's no postman at this hour of the night. That's daft!' objected Midget, the faithful, but at times captious, Sancho Panza foil to this Don Quixote of mean streets.

'Who's talking about a postman? A messenger will come on a prancing horse with a letter. I wudn't be surprised if a horse came galloping mad round the corner this instant.'

'Will it be a mad horse? Wud it bite?' wailed a small boy. 'Oh, I want home to my ma.' He began to howl.

The children, with the infection of fear, became hysterical. Doors were opened and the shrill voices of anxious parents were heard: 'Willie John—Joseph Henry—Michael Thomas—come here this instant.'

The children scattered and ran home with the swift assurance of startled rabbits scurrying to their holes.

Scotchy and Midget were left alone. 'Vamoose,' said Scotchy, theatrical to the last.

Midget's home was round the corner, and he disappeared in an instant. Scotchy, unfortunately, lived in the middle of the street, and he had to run the gauntlet of angry women waiting at their doors. He tried to slip by Mrs McGinty, but the attempt was tragic failure. 'Look here, Scotchy,' Mrs McGinty cried, 'what sort of a carry-on is this? This is a nightly occurrence. Look at that chile working in nerves.' And Mrs McGinty pointed to Joseph Henry, her offspring, sobbing with his face pressed against her apron.

'Honest to goodness, it wasn't me, Mrs McGinty,' stammered poor Scotchy. 'It's the face at the window.'

'"'The Face at the Window!'"' she sneered. 'Isn't that on this week at the Theatre Royal? Have you been stuffing the childer's heads

with eedjit notions? Dear me, "The Face at the—"'

Just then Mrs McGinty happened to look up at the window, and the words froze on her lips. The same ghostly face was staring down at her, spectral and wan. The babble of women's tongues ceased. They, too, like Mrs McGinty, had seen the face at the window. Quietly, in the panic of fear, they withdrew, closing their doors gently, frightened to attract the attention of that spectral glance. Even Mrs McGinty, though still annoyed at Scotchy, forgot somehow to close the door with the usual bang as she retired.

Scotchy, left alone, glided like a phantom through the dimly-lit street, till, in the perspective of distance, the drop-curtain of darkness hid him from sight.

AT five o'clock next morning old Liza, the rapper-up, was going her rounds, knocking with her wee hammer at the doors of the sleeping workers to rouse them to another day of toil in the mill. It was a dismal Saturday morning, with persistent rain and angry gusts of wind. The street-lights shivered blue and dim as sudden blasts came tearing up the street, driving raindrops against the panes with muffled tinklings. But the knocking went on with melancholy insistence. Liza was not troubled by wind and rain; her occupation had inured her to hardship and exposure. Her rounds almost finished, she was thinking of her snug bed, but lately vacated, and still awaiting her again with passive, warm welcome. Then was heard a strange metallic sound, shrill and continuous. A new note had struck the death-knell to Liza's occupation—the sound of an alarm-clock!

The top windows of the houses were opened, and excited faces appeared. 'Did ye hear thon? What is it in the name of God?'

'What is it?' came the squeaky thin voice of old Liza from the darkness of the street. 'It's an alarm-clock, if ye want to know. It's hers, too.' And a thin twisted arm, wrinkled and brown as a cabbage runt, pointed up to the window of the newcomer. 'It's going to take the bite and sup out of cratur's' mouths, so it is.'

Liza had now finished her rounds and was hurrying home. Suddenly she heard the muffled sounds of breathing, and was conscious of a vague presence swathed in the folds of a huge waterproof cape walking by her

A DON QUIXOTE OF MEAN STREETS

side. Then the pale, pinched face of Scotchy extricated itself from the folds of the cape.

'God bless us,' gasped Liza, 'is it you? Ye frightened the wits out of me. You're early afut this morning.'

'I am, indeed,' said Scotchy. 'I'm going down to the boats to help carry bags for the mashers. Lots of jink in it.'

'Ye cudn't face down to the boats that mornin'. You'll be lost, chile.'

'I'm getting a lift in McGrillen's hack-car. He's for the boats, too.'

They struggled against the wind and rain for some time in silence.

'Did ye hear the alarm-clock of the strange woman go off there?' Liza asked.

'Alarm-clock!' cried Scotchy. 'That was no alarm-clock.'

'And what was it?' demanded Liza.

'That was a signal to come to the rescue of the heroine in that haunted house.'

'Rescue her from what?'

'Just rescue her,' came the dogged reply. Scotchy had not yet worked out the imaginative details of the future of his heroine.

Sounds of shuffling feet were heard, and vague hooded figures passed by in the rain and darkness—the workers were on their way to the mill. Their shawls were lapped tightly round head and face, leaving but one eye visible. A phantom, silent host with but one common thought—to exchange the cold and darkness of the street for the warmth and light of the mill.

'Look,' cried Scotchy, who had turned round and lingered, 'there she is again—dressed up to the ninety-nines!'

Liza looked up the street and saw the strange new tenant, dressed in her finery of the night before, walk placidly on. Behind her followed a group of young workers, attracted by the bizarre figure. Unconsciously they had formed in processional order.

'Well, what about her?' came the peevish remark from Liza. The episode of the alarm-clock still rankled in her mind.

'Don't ye see,' cried Scotchy, 'all her friends have come to the rescue. They heard the signal.'

'Where's yer eyes? That's the young doffers going to work. Come on.'

'Even if they are doffers,' persisted the diminutive Don Quixote to the doubting female Sancho Panza, 'she has bribed them to protect her.'

'Don't be daft. How cud a cratur like that

bribe anybody with nothing but the duds to her back?'

'Cudn't she pawn the family jewels?—they all do. Didn't I see them with my own eyes tied up in a parcel.'

The argument might have gone on interminably, after the fashion of their famous prototypes, but they had now reached the domicile of Liza. 'Hurry on now,' she said, 'or you'll miss McGrillen.'

Liza watched the retreating frail figure, enveloped in the huge cape, battle bravely with the uncompassionate wind and rain. As he turned the corner of the street, Scotchy looked back regretfully at the old gateway in the distance, silent and mournful in the drizzling rain.

LATER that day, at the hour of noon, Mrs McGinty stood at her door, arms folded, with unchanging scowl. Further up, at the opposite corner, stood the new tenant, dressed in all her finery of the night before. But the wind and rain had played havoc with its pristine glory. The dolman hung limp like the feathers of a hen on a wet day. Her black lustre skirt, rain-soaked, clung to her gaunt figure, moulding the bony sinuosities of her limbs. Her bonnet was pathetic in its disarray. The little bird with the outstretched pink wings, awry on its perch, stared dejectedly at the bunch of cherries.

A crowd of women, girls, and youths had gathered round the strange being, but at a discreet distance, waiting with the vague expectation of a crowd for something to happen. The face of the woman, too, had an expectant look, not vague but eager, though tinged with resigned sadness, as the face of a lover who lingers on, with vague hope, at the trysting-place.

The rain had now ceased, and a prying sun peered through the dishevelled curtain of drifting clouds, lighting with transient gleam the wistful features of the waiting woman.

Then Handy Hammer came round the corner, balancing a ladder on his shoulders and trailing behind him a long flexible rod of metal. He stopped at Mrs McGinty's door, looking up critically at the spout.

'The owl spout can wait,' said Mrs McGinty. 'Come on in and have a look at the scullery tap. It's whistling away like a canary.'

Handy was about to demur, but she stopped him with a whisper. 'It's all right. I only

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want to spake to ye about that demented being standing at the corner there—a valentine for the public gaze!’

Leaving his tackle on the ground, Handy went inside.

In the kitchen Mrs McGinty started her interrogation. ‘Who is she at all? And what is she waiting for?’

Handy sniggered. ‘She’s waiting, if ye please, for the mill manager to come round in a covered carriage and roll her up in style to the mill! Did ye not hear about her?’

‘I heard two gossamer weemen blether away about a legacy and a covered carriage. But I was left where I started.’

‘Well, bring her in and give her a cup of tea, and you’ll hear all about it. She’s dying to talk to someone. My ears were deaved listening to her yarn as I piloted her from district to district. She has been chased from three already. When she makes a change, round she goes to the nearest mill, dressed up in all that harness and tackle, ready to start work. She was round twice at Millbank this morning, but was warned off the course—Jockey Club rules, ye know. Ye cudn’t work with machinery in all that rig-out.’

‘Millbank, did ye say?’ Mrs McGinty mused a while. When she next spoke there was a tone of finality in her voice. ‘Well, if that’s the case, she’ll get her covered carriage at last, but it will be for the Eedjit Ward. She’ll never know to the differs, may God look down on her. This has got to stop.’

In astonishment Handy asked: ‘What are ye going to do about it?’

‘I’m going straight to Millbank to get the mill manager to come round in a covered carriage and bring her to the Eedjit Ward, as I said.’

Handy sniggered. ‘Wud the spinning-master not do?’

‘I said the mill manager,’ repeated Mrs McGinty. ‘I saved his melt one time there was a row in the mill with the doffers over the head of some new machinery. It’s a long time ago, but I’ll see he disn’t forget it.’

They both passed out to the street. As Handy was about to climb the ladder, Mrs McGinty admonished him. ‘Keep yer mouth in small pleats. I don’t want that parcel of beagles to know my business.’

Then she went over to the waiting woman and said casually: ‘Come on over and warm yerself till the carriage come. You’re perishing.’

The woman gazed at Mrs McGinty with the same look which had frightened that redoubtable lady the night before. But in the light of day it was merely pitiful and weak. ‘The carriage, the carriage,’ she repeated dully. Then her eyes flashed as a dull window-pane reflects the lights of a passing vehicle. ‘Ah, yis, the carriage. I wonder what’s keeping it? And the spinning-master said he would send it round sure. He did indeed.’

‘Did he indeed?’ sneered Mrs McGinty. ‘Is he still up to his tricks? Wait till I—’ But she stopped suddenly, and said quietly: ‘Come on over now.’ Taking her by the arm, she led her across to the house.

When the strange guest had finished a ravenous meal, she poured forth her story, with the volubility of the lonely, glad of a sympathetic ear. ‘Oh, thank ye now—you’re a lady. And so am I—yes, a lady in my own rights. I was raised respectable in a rough meatshop down York Street. But they wor a bad pack, my own—they were indeed. Isn’t that strange now? I had to leave them, yes, leave them—wudn’t ye wonder at that? I was robbed in my rights—ye wud scarcely credit it. All I got was a hundred sovereigns—me that was raised respectable in a rough meatshop down York Street. Who wud believe it? And the young doffers won’t let me work in my finery. The spinning-master told me. And they mock and scoff and jeer at me—they do that.’

‘Nivir mind them,’ interrupted Mrs McGinty. ‘Some day they’ll all die in their beds when their turn comes, roaring away like Doran’s bull.’

But Mrs McGinty’s remark was swamped in a fresh outburst of eloquence. ‘But I’ll pay them out, I will. Ah, it’s a long web of cloth with no end to the weaving! Wait till the mill manager makes me doffing mistress and the pair of us roll up together in a covered carriage to the mill. They’ll know their driver then.’ A glint of venom flashed in her eye. To the surprise of Mrs McGinty she started to sing in a low sweet voice a mill chant popular with the workers:

*‘On Monday morning when she comes in
She’ll hang her clothes right on the highest
pin,*

*Then turn around for to view her girls,
‘Saying “Dang ye, doffers, lay up your ends,
Raddy right full ra-raddy right full ree.”’*

‘Come on now, you’ll miss the carriage,’

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said Mrs McGinty rising, and the oddly-matched pair passed to the street.

As they approached the corner, the crowd, silent with vague expectation, withdrew a little. A tremor of excitement, like the ripple of a wave, passed from face to face at sight of Mrs McGinty. The little drama had fallen flat, through delayed action, but the entrance of such a redoubtable character, they felt, would speed up the plot.

'Stand at that corner till I come back,' Mrs McGinty said to the woman. 'And you, there,' addressing a knot of boys and girls, their eyes dancing with potential mischief, 'keep yer distance.' Folding the shawl tightly round her head, she blazed a trail through the astonished women, who respectfully gave her free passage.

'JUST come aboard, sir,' said Scotchy, saluting Midget Mooney, who had gathered the clan in the gateway, awaiting their lord and master. Scotchy had had a good morning at the docks, and was smoking a cheroot, the ash of which he flicked adroitly after the manner of a stage villain. 'Brutal landlords on the stage,' he explained to the admiring children, 'smoke cigars the whole time, and puff away after saying a heartless thing.' He blew a few puffs and leered, but the leer was unconvincing on the poor, pinched face of the dreamer.

The watching crowd, bored with the tedium of waiting, were attracted by the gesticulations of Scotchy. They were, of course, acquainted with his strange kink, and they welcomed the presence of another actor who would supply the comic relief. Scotchy had roused them from their lethargy. The women were content to watch and to listen, but the younger people, tired of such passive entertainment, started to sing, in a spirit of raillery and mischief, the chorus of a sentimental music-hall ballad:

*'She watches and waits for him day by day,
He sleeps in the ocean wide, far, far away,
For him her heart does ache,
She watches for his sake—
She watches and waits for him day by day.'*

At the end of the song there were outbursts of ironical cheering from the young and thoughtless. But the faces of their elders grew glum, and they cast looks of pity at the pathetic figure standing at the corner. But she seemed unconscious of the pointed

raillery, rapt up in her illusory dream of the long-awaited covered carriage.

Scotchy, in his unique fashion, had already placed his own interpretation on the singing. Excitedly he whispered to Midget: 'That's the chorus, singing in the wings, telling you who she is and all about her.' And then with animation: 'Midget, we'll make a play out of this. Keep yer eye glued on her and watch how she acts. You'll be the heroine.'

'Right enough, I'm good at oul' lady parts,' admitted Midget, as though it were futile to deny the fact.

'She's not an oul' lady,' corrected Scotchy. 'Mrs McGinty is an oul' lady. *She's* a heroine. But you'll have to chalk yer face, and clap yer jaws in, and let on to be dying in galloping consumption, waiting for yer lover to come and rescue you.'

'And what will you be?' came from the chorus of children.

'Me, oh, me?' cried Scotchy, unaware that he was playing to a packed house. 'I'll be, of course, the hero coming in a covered carriage to rescue her and live happy ever after.'

Scotchy paused to reflect. He had heard, coming up the street, of the waiting woman and her strange delusion. But the mill manager was an awkward fact. To bring his beloved heroine back to mundane life in the mill was against the rules of the theatrical game. It was her destiny, as a heroine, to end her days in the fair Eldorado regions of happy endings, far removed from the pitiless logic of life. But this Don Quixote of mean streets had tilted at windmills before. In a flash of inspiration he exclaimed: 'Of course, I'll be the lover disguised as a mill manager to put her enemies off the track!'

There was a sudden roar of laughter from the crowd. But the laughter as suddenly ceased when the woman moved from the wall to the kerbstone, pointed her finger at Scotchy, and said: 'Come on over here, son. I want to spake to you.'

Scotchy hesitated, but Midget spoke encouragingly: 'Maybe it's yer long-lost mother who used to be an actress till her voice broke and she had to start work in the mill.'

The woman spoke again, her finger still pointing at Scotchy. 'Come on over here, son. I won't harm you. You're a wee man.' Her voice was tender and pleading; her eyes had grown wistful.

'What needs you be afeerd?' remarked a boy, usually taciturn, but now surprisingly

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loquacious. 'Aren't you the seventh son of a seventh son, and bear a charm?'

Scotchy felt like the villain of a play who is being unmasked. His harmless, theatrical lies, told only for the purpose of atmosphere, were returning to roost. But he would prove to all that he was a hero. He had already assumed a part. With the stately tread of a stage butler he walked over to the heroine and said: 'My lady, the carriage will soon be here.'

'God love ye,' she cried. 'You're a wee man. You're the only one to believe in me.'

Before the astonished Scotchy could protest, she had seized him in her long, lank arms, smothering his mouth and blinding his eyes with kisses.

When Scotchy at last extricated himself from the clutches of his demonstrative admirer, he slunk back to the gateway, his head bowed in shame. After all, Scotchy was but a boy—and to be kissed and mauled by a woman, and in public, was the last word in humiliation. But the plaudits and cheering of the crowd swung him back, pendulum fashion, to his theatrical role. He walked over to the kerbstone, now the footlights of a theatre, and bowed to the audience as he had seen actors on the stage acknowledge an ovation.

'There's nothing could harm Scotchy—not even a mad woman,' remarked a thin, faded woman who dabbled in the occult. 'He bears a charm!'

A group of women started to discuss the event. But the rumble of carriage-wheels was heard approaching, and spasmodic cheering.

'HUSH!' said the expectant crowd, and the babblers ceased their chatter, as idle gossip stops in the theatre at the rise of the curtain. The waiting woman had resumed her listless pose, but at the sound of wheels she became alert. A few moments of disconcerting silence, of embarrassing quietness, and the long-awaited covered carriage came round the corner, stopped, and the familiar voice of Mrs McGinty was heard. 'I'll get out first—I'm the souplest.'

The driver opened the carriage-door, and out stepped the grand old warrior herself. And then a dapper little man with side-whiskers stepped from the carriage, assisted by Mrs McGinty. He bowed his thanks with a superb gesture.

'It's the mill manager himself,' said the thin, faded woman. And then, connecting the

event with vague past prophecy, she added: 'The spey woman was right. She said the highest in the land wud step from a carriage and bow to the lowest.'

The mill manager was dressed in the fashionable style of the period. He wore a Newmarket bowler-hat, and a tweed suit of a texture which vaguely suggested heather on the mountain. His patent-leather boots, with pointed shining toes, were fastened at the sides with round black buttons. Over his left arm he carried a light ulster, neatly folded.

'He looks as if he'd jist stepped out of a bandbox,' said Liza, the rapper-up, her withered old face wrinkling with delight.

'I'll love ye and leave ye now,' whispered Mrs McGinty. 'Ye know what to do.' She walked over to her own doorstep, adjusted her features to the habitual scowl, and, as usual, folded her arms.

On the instructions of Mrs McGinty, the mill manager, working to schedule, went over to the woman, bowed with the air of a Spanish grandee, and said: 'Madam, the carriage awaits.'

The old lady grew nervous, now the critical moment, so long awaited, had arrived. She fixed and refixed her bonnet with agitation, and like a huge gaunt bird preening its feathers kept adjusting her dress. The mill manager held out an immaculate white hand. Instinctively the woman answered the gesture, giving the man her hand; but she seemed reluctant to move.

Scotchy, from the gateway, had been examining in detail the clothes of the stranger. His heart sank within him, and he whispered sadly to Midget: 'I nivir cud manage a rig-out like that for the play.' Then he caught sight of the ulster, and smiled. 'I cud pick up an oul' ulster like that dirt-cheap in Smithfield, and let on I was wearing a masher's suit below it.'

Life and the theatre were as one to Scotchy, elaborate illusion dovetailing with make-believe. At the friendly gesture of the mill manager, the crowd, awed to silence, at his presence, could keep quiet no longer, and burst into cheering. The poor demented being, thinking the cheers were meant for her, bowed and smiled to the excited people, as she finally moved to the carriage. The little bird in her bonnet, insecure in its fastening, wobbled and bowed, as the bonnet moved, with the mimic agitation of life. Her cavalier escort, still playing the part, assisted her into

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the carriage with the deference due to a lady of rank, following after and closing the door. The jehu, perched on the dickey, taciturn and aloof, awaited the signal to start.

'Start,' said Mrs McGinty from the door.

The driver cracked his whip, and the carriage, with its strange occupants, passed down the street. The motion was slow at first, so dense was the throng. The old lady appeared at the window, her pale face now flushed and happy, the old frustrated look gone.

Scotchey and Midget were standing to attention at the old gateway, the members of the cast ranged behind like soldiers on parade. At a talismanic gesture from Scotchey, the actors had become a battalion of soldiers ready to defend the heroine to the death. 'In case,' Scotchey whispered to Midget, 'her enemies might try to kidnap her—then we'll come to the rescue.'

As the carriage passed slowly by, Scotchey and Midget clicked their heels and gave a military salute. The departing heroine smiled at Scotchey and cried: 'Ah, there you are. You're a wee man. You wur the only one to believe in me. Who was right, eh? Only you and me.'

'Salaam,' said Scotchey and Midget, bowing with Eastern gravity.

The woman bowed in return. As she nodded her head, the little bird with outstretched pink wings fell from its perch, head downward, suspended by a slender silken thread attached to its leg. As the carriage, still moving slowly, passed over a huge cobblestone, and fell with a jolt, the pink wings shivered as in the final throes of death. On seeing Mrs McGinty, the woman cried: 'Ah, there you are. You're a lady and so am I—a lady in my own rights. I was raised respectable in a rough meatshop down York Street—indeed I was.'

Mrs McGinty gave a slight nod, but the scowl did not relax. Something starlike, though, glittered in her eye, suspiciously like a tear. Hastily she wiped her eye for traces of an imaginary insect.

'Three cheers for the mill manager,' shouted the timid woman, excitement overcoming her timidity. Then she discovered, to her horror, that, through force of habit, she had the iron shutter-pin in her hand. But the crowd was too excited to be critical of detail.

'Hip, hip, hurrah!' The cry was taken up and repeated. The mill manager appeared at

the window. He acknowledged the ovation with a perfunctory bow, and a quizzical, tolerant smile. So close was he to his companion that their faces almost touched. To relieve the pressure on his arm he placed it unconsciously on the woman's shoulder.

The gesture was not lost on Scotchey. He said to Midget: 'That's the way lovers go away on their honeymoon. It's a great disguise that—ye wud swear it was a mill manager!'

Sancho Panza was in one of his doubting moods. He smiled a tolerant, sceptical smile, but made no comment.

IN the midst of the hubbub and cheering a furtive shawled figure slipped up the stairs to the room of the late tenant, whose stay had been so brief. It was Liza, the rapper-up. In a few minutes she returned with something up her shawl, and was heard to murmur, as she went round the corner: 'That's you out of the way for good. Taking the bite and sup out of a crat'r's mouth, eh! The wee hammer will do us our day.'

To add to the confusion, a group of young mill-workers, boisterous and happy, came rushing round the corner. Saturday was half-holiday, and they did not start again till Monday morning. When the old lady saw her enemies approach, the smiles faded from her face and a gleam of triumph kindled in her eyes. She stretched out her long, lank arm, waving it menacingly in their direction.

Scotchey in ecstasy whispered to Midget: 'She's going to curse her enemies and put a spell on them. Maybe she has the black art. Hist!'

'Ha, ha!' the old lady chuckled like an old witch. 'Where are ye now, eh? I'm yer new doffing mistress. I'll see ye all on Monday morning.' She turned for corroboration to her companion, but the mill manager had discreetly retired. He dreaded the badinage of the young doffers, and was dubious of their horseplay. The reference to Monday morning and the doffing mistress was fatal. The doffers began to sing, with boisterous irony, the doffing mistress song:

*'Oh, do ye know her, or do ye not,
This new doffing mistress we have got?
Thing-gom-bob-y it is her name,
And she hangs her clothes right on the highest
frame—
Raddy right full ra-raddy right full ree.'*

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The singers frightened the horse. He began to neigh and paw, and then to prance. Women screamed and scrambled to safety. The driver, taking advantage of the cleared space, used his whip, and the carriage moved at a faster pace down the long brick-canyon street.

Verse after verse of the old mill chant was sung after the retreating carriage. The tragedy was fast moving to its climax. At the carriage-window the tragic heroine was waving her last farewell, bowing adieu to the final curtain. It was to be 'positively her last appearance', as the playbills of the period lyingly expressed it on the reappearance of an ageing prima donna.

The upper part of the street was now deserted, left bare as a strand by that receding tide of humanity. Only the elder women stood at their doors. Mrs McGinty, moveless as a statue, stood at her door, arms folded, wearing her ageless scowl. Scotchy and Midget were standing at the top of the hilly street, waiting for the drop of the curtain.

As the carriage disappeared round the corner of the street, Scotchy saw the long arm gesticulate for the last time, the bonnet nod a final good-bye. And then the poignant words of the last verse of the mill chant, tragic in their brutal irony, were wafted after the departing carriage:

*'Oh, Thin-gom-bob-y, when we're gone away,
Every night it's for you we'll pray,
We'll send for you when you're far away,
And we'll bring you back, and we'll make you
stay—
Raddy right full ra-raddy right full ree.'*

As Scotchy listened to the final verse, every theatrical nerve in his being vibrated in unison with the singing. Excitedly he spoke: 'Them was the family retainers singing the hero and heroine off the stage. It was a great curtain.' He clapped his hands in enthusiastic approval.

But Midget had his eyes fixed on Mrs McGinty, whose scowl had disappeared. Suddenly a muffled sound, as of a sob strangled at birth, came from her lips and she burst into tears. Hastily she withdrew without troubling to close the front-door behind her.

'Did ye see that?' called out Midget with awe. 'That's the first time I've seen oul'

McGinty real upset. She was crying there.'

'Aye,' said Scotchy with contempt. 'What's she crying for? What are they all crying about? That's oul' ladies for you!'

'What are they all crying about?' said Midget with surprise. 'Don't ye know? They're crying because that oul' lady is on her way to the Eedjit Ward and doesn't know to the differs.'

'She's away to no Eedjit Ward,' said Scotchy indignantly. 'She's gone off with the hero to live happy ever after.' Seeing his squire was slipping, he went on: 'Midget, I'm surprised at you—you'll never learn wit.'

'Don't be daft, Scotchy, that was no hero—it was the mill manager. Don't they all know him as well as a begging ass.'

'That's where you're all wrong. It was the hero disguised as a mill manager to put her enemies off the track.'

But Sancho Panza was in a captious mood and refused to be convinced. 'Do you mean to stand up there and tell me,' he persisted 'that everybody is wrong and you're right? How cud that be?'

'How cud that be?' said Scotchy, sparring for breath. 'Simple as a kiss. I was the only one let into the secret. Didn't you hear her shout from the carriage-windy "Only you and me"? That was the password.'

But life was already returning to normal. The voice of a boy at top of the street shouted: 'Who's for a game of rounders, lads?'

'In a minute,' shouted Midget, turning round. Then with impatience to Scotchy: 'Are you for a game of rounders?'

'Wait till I explain matters to you. In the Theatre Royal—'

'Ach, I'm fed up with it all. It's a hen's yarn, Scotchy.' And turning his back to his old friend, he walked up to a group of waiting boys.

'Come here till I tell you,' Scotchy shouted after him.

But Midget did not come back. And because this poor Don Quixote of mean streets had no islands with which to bribe his faithless departing squire, he was left, as all dreamers are, alone with his dreams. But not quite alone. Something bright on the ground attracted his attention, and he stooped to pick it up. It was the little bird with the outstretched pink wings.

May First Story: *War in the Chazzamette* by Clive Burnley.

Easter in Cyprus

G. G. WARREN

MANY years ago I was living in Mitsis House, overlooking the old Roman harbour and Venetian fortress of Kyrenia, on the north coast of Cyprus. The original pharos, or lighthouse, is still in place, but the ancient guiding fires are now replaced by a very modern light at the tip of the mole.

It was Eastertime, and a supreme moment in the year of the Greek Orthodox Church, whose members composed the larger part of the population of this small town, the remainder being Turks, who kept strictly to their own quarter at this season of the year.

I was asked by many of my Cypriot friends if I would attend the all-night services in the old church of Kyrenia, which stands on a promontory jutting out into the Mediterranean. These services are a marathon affair, lasting from Good Friday until dawn on Easter Monday, when everybody embraces everybody, pats them on the back, and shouts: 'Christ is risen, brother!'

THE old church was small and very gloomy, illuminated only by candles and lanterns brought by the worshippers, reinforced by the faint reflections in the gilt ikons attached to the walls. The congregation comes and goes in relays over Easter, bringing in food and wine, and more candles.

The Scripture-reading was in full swing as I picked my way through the shadowy crowds to the chancel steps, where the priest in his shining headdress, voluminous robes, and great beard was reading away for dear life by the light of candles and lanterns held by half-a-dozen men that I knew—an innkeeper, a porter, a fisherman, a shepherd, a school-master, and a police sergeant in plain clothes. The atmosphere was hot, and rank with the peculiar odour of these old churches, mixed with sweat, dirty clothes, garlic, stale incense,

wine fumes, wet babies, and crowded humanity in general.

Sweat was pouring down the face of the priest, and dripping off the tags of his beard. His acolytes were in no better case, some fully dressed, and some in shirtsleeves, while one that I knew well, a baldheaded giant, was in his undervest, the perspiration cascading down from his high forehead, running in rivulets through the creases of his weatherbeaten face, and dribbling from the ends of his drooping moustaches of which he was so proud. I was not surprised, for the heat generated by the naked candle-flames and packed humanity made the place like a furnace. The bearded man of God could only be heard from close quarters, as, at a yard or so, his voice was completely drowned by the din of the congregation, some praying aloud, some holding family reunions, some having a picnic with shouts of laughter, and yet others discussing and arguing mundane affairs at the tops of their voices.

Through the press staggered a small girl with a basket of provisions for her uncle, the priest. Without a sign of recognition, he immediately started to trace with his finger the words he was reading, and the baldheaded giant moved forward, his braces dangling, and stepped up to the lectern. Following the priest's finger with his own, he commenced reading as the priest left off. In this way reading never stops from Crucifixion to Resurrection.

The priest sat down on the chancel steps, took off his silk-hat, and mopped himself with an isabella-coloured kerchief. He then removed his shoes and wriggled his toes, and I was thankful that there were no socks. Then he took the contents of the basket and, after a long draught from one of the black bottles, kindly passed it to me to finish, which I was not remiss in doing.

AFTER a time the heat, stench, and noise was more than I could endure, so I managed to force my way to a door and step out into the clean night, or rather morning, air, for it was now the hour before dawn. The moon was throwing a sparkling road of silver across the sea to my feet, but behind me the first tints of dawn were showing behind the mountains of Anatolia, some eighty miles to the east.

How long I stood there drawing in huge lungfuls of clean sea air I don't know, but suddenly a great uproar in the church announced that the great moment had come, and the people came pouring out. I was embraced, clapped on the back, bussed, and informed with shouts of joy that Christ had risen. Knowing enough Greek for the set reply, I was able to hold my own in the verbal give and take, but was quite unable to compete with the blasts of garlic and sprays of spittle with which I was generously bedewed.

When the crowd thinned a little, I slipped down to the water's edge to think it out. The wave of emotion from all these good folk had caught me, and raised me above my normal pedestrian mental processes. After the prim Church of England services, this seemed like opera bouffe, and yet it really meant something to these people—not something conventional, apart from the workaday world, but a real and living part of their life, and their obvious joy, though perhaps stimulated by sundry black bottles, was without any question real and heartfelt.

Was Easter to them a Christian feast, or merely a new expression grafted on to an older spring ceremony stretching back to the roots of time? I had to give this up after much speculation as being a question for wiser heads than mine to answer, but it seemed clear that the old year with its animosities and hard feelings had been swept away, to usher in a new dawn full of promise and compassion.

Post Haste—By Automation

F. GEORGE KAY

EVERY year the task of the 325,000 men and women whose daily work is to speed Her Majesty's mails and ancillary communication services becomes more difficult. It has been said that the only licence which cannot be bought over a post office counter is a marriage licence. Insurance stamps, pension payments, child allowances, postal orders, money orders, tobacco tokens—all these are part of the Post Office service, and most of them demand a letter or form to be sent through the mails as well.

The primary function of the Post Office, however, remains the transmission of letters. The postman must be prepared to visit any home in the country and deliver to any of 50 million people a letter posted within the

past twenty-four hours by another of those 50 million. In no other service to the community is there such an intricate process involved or one which has to be carried out at such tremendous speed, and with a fantastically low percentage of error.

'Lost in the post', as everyone knows, is more often than not the white lie of a correspondent who wants to make an excuse for failure to write. The chances of a correctly-addressed letter going astray are virtually nil, and serious delay is almost as rare.

But to maintain the speed which has made 'post haste' a synonym for quickness ever since the cry became a royal order causing ostlers and stable-boys to rush to serve the galloping couriers of Tudor times, the Post

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Office has either to get more staff or to find mechanical substitutes for human dexterity and intelligence.

Like all employers of labour, the Post Office faces well-nigh insuperable problems of meeting a growing demand on their service with depleted staffs. But the reputation of being the fastest mail-service in the world is of such long standing that every effort will certainly be made to maintain it.

There is only one real answer—automation, plus all the possible mechanical aids where human beings cannot be replaced by electronic brains and hands.

ONE of the first developments will be major alterations to the tube-railway, which few Londoners even know exists. Opened in 1927, the Post Office tube has six and a half miles of track connecting the East End with Paddington, with intermediate stations at the G.P.O., the Mount Pleasant sorting-office, Holborn, Wimpole Street, and Oxford Street. In the peak evening period, mail-trains, with no human being aboard, transport mail at an average speed of 35 miles an hour at three-minute intervals. Compared with passage in the traffic-jammed streets above, the mail tube covers the distance across London in twelve minutes as against forty minutes by road.

This railway is being altered to serve a new station for the Western District sorting-office, on which building will begin as soon as the recent moratorium on Post Office capital expenditure is lifted. It will speed up the handling of the enormous amount of letters and parcels of London's West End, where the shift of business firms from the City and Central London has entirely changed the postal situation since 1939.

It should eventually give same-day delivery of local letters, as is already quite normal in the Central area. Here the Post Office has a great example to follow. London's posts have always been very speedy. As long ago as 1683, it was possible to post a letter in hundreds of taverns and shops, where for one penny it was collected within the hour, sorted at offices in Smithfield, Newgate Street, Southwark, and St Martin's Lane, and delivered to the desired post office, usually within two hours of dispatch.

This London penny post, organised by a merchant named William Dockwra, was imitated elsewhere. In Edinburgh, for instance, a

man named Williamson, who owned a coffee-house, ran a penny post as early as 1776. His postmen wore uniform and rang bells as they went their rounds so that merchants and householders could hand them letters. Williamson was given a pension when an official penny post began in Edinburgh in 1793.

It was perhaps a simple matter to ensure speedy deliveries in those days of a few hundred letters a day and of towns of a limited size to cover. Now such speed is humanly impossible—but not perhaps mechanically impossible. That, at least, is the faith of Post Office research engineers and private firms who are tackling the postal mechanisation problem.

Remarkable machines are being developed to help with letter sorting. A pilot system, used for experimental purposes, has for some time been in use at Brighton, where outgoing mail at peak holiday periods can send the volume of letters and postcards to ten times above normal, making the maintenance of regular schedules very difficult, because temporary labour can hardly be obtained in competition with the hotels and other industries catering for the holiday-makers.

These Transorma sorting-machines are of Dutch origin. The device enables the sorter to select any of 250 destinations, instead of the 48 which is the normal number with hand-sorting. Some sorters have shown that they can deal with as many as 72 boxes when sorting by hand, but this means an abnormally long stretch of the arm or else a movement to and fro before the sorting-table, in either case reducing speed and of no greater advantage than sorting by stages—i.e. sorting into 48 groups and then re-sorting into a further 48, and so on.

But the Transorma machine really has no maximum total of selected places beyond that of the sorter's memory. After practice a skilled sorter finds no difficulty in memorising 250 destinations, and indeed in Holland, where the system has been used for years, men distribute letters to as many as 500 destinations without hesitation.

The sorting into 250 selections is much quicker than into 48 under the old system, because there is hardly any physical movement. The sorter reads the address on the topmost of the stack of envelopes in front of

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him, simultaneously picking it up, pressing a key with the other hand, and dropping the letter into a slot. The machine does the rest. The letter falls down a small chute, where it is directed into the slot opened by the key. In each box the letters are neatly stacked and automatically cleared when a determined number has been collected.

Incidentally, the speed of the Transorma system can be lost when the sorter has to pause to decipher a badly-written or incomplete address. Semi-illiteracy, carelessness, and ignorance of the correct address are responsible for much delay, but the worst culprit is that correspondent on the lunatic fringe, who likes to challenge the resourcefulness of the Post Office by writing the address in some childish code or illustrating it by atrociously-drawn sketches.

The Post Office has no desire to play in competitive games of this kind, but, as it has a responsibility to carry any letter duly stamped to its correct destination, every attempt has to be made to decipher the address and forward it. No machine can, of course, ever replace the brainwork devoted to this type of letter.

MORE co-operation by the public will have to come if more machines are used in order to speed the mails. The enormous amount of manual work involved in placing letters face uppermost and checking the postage in readiness for the cancelling-

machines is second only to the sorting procedure, and it is here that automation must eventually develop.

Machines working to the orders from electronic eyes can be constructed first to turn letters so that the writing is uppermost and then to turn them so that the stamp is in the top right-hand corner. The difficulty is to ensure 100 per cent efficiency while British people use score upon score of different-sized envelopes and, even more troublesome, envelopes of different colours. The electronic eye would only actuate the machine because of the contrasting markings on one side of the envelope. If blue ink were used on a blue envelope, for example, it might fail.

Similarly, an electronic eye which duly turns every envelope with a red stamp can be built into a machine. But such an eye would normally ignore those envelopes with the combinations of green and blue, brown and yellow, green and yellow, blue and green, and so on, which amount to 2½d. Unless these combinations could all be approved by the machine—with any not totalling 2½d. rejected for a 'postage due' stamp—the necessary human supervision would still nullify the mechanical advantage.

Even if this sort of electronic brain-and-hands machine is still nothing but a blueprint on the research engineer's desk, the simpler device for turning letters face upwards is not very far away. It is another stage in the never-ending campaign to keep our letters moving 'post haste'.

Home Thoughts in Spring

*The Spring is home before me. I have lost
The moment of the wind's heart softly breaking;
And Time, so long asleep, childishly waking,
Startled with dew, from fantasies of frost.
This moment of the year I love the most
Is old already. Summer in the making
Unpins her curls, and earthy woods are flaking
Pale primrose while I dream my lovely ghost.*

*But now the scent of coming clover lying
Under the meadow and the green begun
Capture the ways of wings and set them flying
Into the daffodils as once the sun.
The Spring is home before me, but my mind,
My heart, and all my dreams are close behind.*

HAZEL TOWNSON.



The Jubilee Tea-Tray

A. M. KAY

DURING the first spring night I had spent in Glenshelister for many years my sleep was disturbed by a sou'westerly gale blustering in from the open sea, driving dense rain to blatter against the windows; but at dawn the wind dropped to a gentle breeze, and by mid-morning the familiar scenes were bathed in calm, bright sunshine. Early in the afternoon I set out to stroll down the lochside towards Blarbuie to see what damage the storm had wrought in that direction. Only a few fresh gaps showed in the woods overlooking the loch where slim pines on the steep braeface had crashed uprooted amongst their tall neighbours; the thatch on the ricks in some exposed stackyards looked a bit towsey, but none had been scalped by the blast; and the boats beached before the roadside houses were all secure, safely snugged down under roped tarpaulins weighted with heavy stones.

Gratified by that survey, I was thinking of returning to the village, when conscience accused me of intent to neglect a duty which could not decently be left undone. After all, these neat skiffs lying safe on the shore were relatively recent incomers to the lochside and complete strangers to me: but further on, in a small cove near Blarbuie Point, Niall Mor Dunvulig's venerable coble used to ride in the

offing or rest on the shingle, and surely it behoved me to go and find out whether that worthy friend of my childhood was still to the fore and, if so, whether she had survived the tempest intact.

From what my valued crony, Mrs. Gillies the housekeeper at Glenshelister Castle, had told me in the previous autumn I knew that, beyond the new house on Brass Foreland, the road to the Point had sadly deteriorated into a rough, deeply-rutted track, and I found the going there even harder than I had expected. However, my trudging was rewarded when I came abreast of Dunvulig cove and sighted a small, stout craft of antique design nested on her gunwales in a grassy nook well above high-water mark; and, expecting that a nearer view would identify her as the object of my pious journey, I turned aside and began scrambling down the slope towards her.

I was picking my way through bracken, heather roots, and tussocks, when I was startled by a familiar voice crying: 'Go cannily now in case you'll sprain an ankle hurrying to call on your lady friend and paying no heed to another that's less of a wreck and a deal younger!', and, glancing back towards the track, I was delighted to see Mrs Gillies herself seated beside a tall lichened rock,

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basking in the sunshine and regarding me with amusement and pleased surprise.

'You need go no further,' she went on, 'for that's Niall Mor's immortal coble and not just a vision! Wouldn't Niall be the proud man if he could know two of her oldest friends had come on the same day to inquire for her welfare? I've already had a good look at her, for reasons of my own that I'll tell you about if you'll come and sit by me for a wee rest after trailing along that terrible track—at your time of life! I've brought a flask of tea and some buttered scones and jelly, not that I expected to have company, but you're gladly welcome to a share. You'll have to use this delf mug, but you won't mind—you that has, many a time in your day, drunk tea out of the coble's bailing-dish after wheelks and cockles had been boiled in it at picnics on the Isle of Nuts out yonder in the Sound. I'm fit and fresh myself, for I didn't have to toil this length on my own two feet like you. Indeed, I seldom need to tramp anywhere on my travels nowadays. I've lots of kind friends, and one of my younger ones gave me a hurl all the way from the bridge-end outside the Castle gates; and if you keep in with me I'll bespeak you a lift back to the village later on, in good company and in plenty of time for your supper.

'You'll remember me telling you last autumn about Duncan and Florrie, the newlyweds that were setting up house in Ardfuar farm there on the hill overlooking the old pier and the Point? Well, he telephoned me this morning, on Blarbuie double two, that he was running Florrie over to Inverlochan and coming back for her later in the day; and he asked if I had any notion for a jaunt, seeing it had turned out so fine after the storm in the night. When the gale was at its height in the small hours, I'd been thinking of Niall Mor's coble, wondering if she was still in it and wishing I could go and see her; so I gladly accepted Duncan's offer, and here I am on an errand much the same as your own, but also because of something else concerning her ladyship down there on the grass—something that has been bothering me off and on for a while back.

MAN, this is the first day since last October when a body could sit outdoors in anything like warmth and comfort. We had a real bad winter, particularly in January and February, when Glenshelister was whiles

like Greenland itself for frost and snow, and far wilder winds than last night's forby. The older folk hereabouts were saying there hadn't been the like of it since the terrible winter of 1895. One or two of them, particularly the old wives, seemed to take it for granted that I could recall that year as well as themselves, and I was a bit nettled at them for making me out aged enough to remember sixty years ago! I suppose I'd better admit to you that maybe I do, faintly, for, in your youth, you must have had a keek now and then at the register of births on the flyleaves of the Blarbuie Family Bible, and your memory for information no real concern of yours is far too good. But, whatever you remember of days and dates, I dare you to tell it in Gath, or Glenshelister, or to publish it in the streets of Askelon, or Inverlochan! My own memory isn't failing yet, and I could give you a red face with a tale or two if I wanted to get even! Anyway, drink up your tea and I'll give you the dregs of the flask and the last of the scones to keep you quiet till I get on to what really brought me here to-day for a look at the old coble.

'Nobody hereabouts now knows her exact age, but when you and I were bairns we knew her as Noah's Jollyboat, and even then the tar on her was nearly as thick as the original planking, and her bilges were mended and clouted like a beggarman's breeks. By the time I left school Niall Mor was no longer in the flesh, and his son, Niall Og, had heired her; and, although he must now be well over eighty, he still goes by that name, which, as you ought to know, is the Gaelic for Young Neil!

'Well, I met in with him in the village one day in January, after a great gale in the night, and asked civilly how the Jollyboat had won through the storm. He said she was still in it and none the worse; and then he began a harangue, in the Gaelic, about the changes for the worse in our climate and weather of late, treating me as if I was about ages with himself! According to him, in our young days the Gulf Stream kept the Sound and the loch warm all winter, and the Cruachan ridge was a grand bield against easterly winds. We seldom saw deep snow or had long severe frosts and so got little chance at the ploys of snowballing, or of sliding on the dubs and lochans that were scarcely ever frozen hard enough for safety. But now, with the aeroplanes fleeing day and night across the ocean causing constant draughts, and yon godless atom-bombing and

THE JUBILEE TEA-TRAY

blasting away in the Cannibal Islands, the Stream had been chilled and turned from its course; and it would take Cruachan and Ben Nevis together to keep out the bitter airs from Russia where there's this terrible carry-on of a Cold War!

'I let him blether on, but at last contrived to make him tack back to the coble. I doubt that was a mistake, for he started to remind me of a time when she was blown clean off the beach, birlled along the road, and hurled into my grannie's garden-plot at Dunvulig cottage by a tremendous gust of a gale in the winter of 1895. Losh, thinks I to myself, here's another casting-up that wretched date at me; and the worst of it was that I did remember, dimly, something about a boat lying in my grannie's garden, though I couldn't be sure whether I saw her there myself or had just heard tell of the affair later on. You know how some things you heard as a bairn come in time to be so real that you begin to believe you yourself had a part in them, and that was the way I felt, listening to Niall Og that cold January day.

'I believe he thought I was pretending to have no mind of that disaster to his boat, for he launched into a long palaver, either to remind me or to prove by chapter and verse that his own version of it was true. He recalled that he had just come ashore from a voyage as quartermaster in a Clan Liner to Calcutta and was putting in time till he got another ship, helping his father on the croft and at the line-fishing. At daylight on the morning after the gale he went out to look if the boat was safe on the shore, and lo and behold, there she was—gone! With that, Duncan-the-Post going by on his bicycle cried that she had flown off into Dunvulig garden and had maybe broken her wings or she would fly back; and away went Niall Og to rouse his father and break the bad news to him with a cup of tea, seeing he was then well up in years. Then the two of them hurried to Dunvulig and found her, a pitiful sight, lying among the kale-stocks in my grannie's plot. However, she had only a strake or two started and broken, and her stern a bit stove in—nothing for a clever seaman like himself, or an experienced hand like his father, to fash themselves about. A length of planking and a sheet or two of tin well slaigered with good tar would soon sort her hurts; and they could manage the job where she lay, and then get the lend of a horse and a few helpers to drag her back to the shore

where they could caulk her seams and have her as seaworthy as ever.

'Here Niall Og paused to remind me, very kindly, how good my grannie, blessings with her, used to be to everybody; and that led him to tell how she let him and his father set a fire in the garden to boil the tar-pot on, and not a cheep of complaint out of her about the reek from it, or about them hammer-hammering fit to deave her all day long! With her usual kindness, says he, she masked them pots of tea, and when she heard they were needing some tin to nail over the started strakes, away she went and fetched them the very thing—a bright tin tea-tray with a nice picture of Queen Victoria on it and an inscription: "Her Gracious Majesty's Jubilee 1887". And, believe me, I didn't know where to look when he went on: "Och, Mistress Gillies, I'm sure you'll remember that day. I have it all in mind myself as if it was yesterday; and there you were, just a wee girl, of course, girnin' and greetin' because you didn't want your grannie to give the bonnie tray to the nasty men to nail over their boat's planks!"

'BY then I'd had enough of Niall Og and his havers, and I daresay I might have taken leave of him with less haste and with better grace than I did. I wasn't upset at him raking up the stoury past, for I whiles do that myself, as you know; but if he went spreading this yarn, complete with chapter and verse, to all and sundry, my age would be published to the whole parish as if my birth certificate had been plastered on Glenshelister kirk door! As soon as I got back to the Castle, I had a good rummage in the glory-hole cupboard where I keep my odds and ends, hoping to find my grannie's Jubilee tray there. If I could do that, it would take some of the sting out of Niall Og's story about me toddling in the garden at Dunvulig sixty years ago, grudging and greetin' at him and his father getting the tray and nailing it on the coble as a memorial against me. Yes, and I did find what I sought, at least I found an 1887 Jubilee tray and was consoled and satisfied—for the time being.

'I know fine you're thinking it was daft of me to carry on bothering my head over what really doesn't matter a dicken, but I just couldn't let it rest. My mother used to call me an obstinate wee besom, and I'm still persevering enough! Grannie was a great one for

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keeping things the seven years, and some for seven times seven. She left a lot to my mother, who, in her turn, passed much on to me; and, thinking of that, I began to wonder if I'd found the right tray after all, for I had a dim notion that my mother herself had one of these 1887 Jubilee trays that were popular at the time, and maybe the one I had found wasn't the right, or the only, one! Last night when the storm was at its height I was lying awake pondering on this, and it came to me that I ought to go down to Dunvulig beach some day soon to have a look at the old coble and find out whether the remains of a Jubilee tray were amongst other bits of tin used to clout her bilges; and when Duncan telephoned in the morning, there was my chance—and here I am!

'Duncan and Florrie recently bought the boat from Niall Og. They intend to use her for ferrying sheep to and from the wee island there off the Point that belongs to Ardfuar farm; and they've scraped and burnt off much of her old tar, and plan to give her a good overhaul and a fresh coat of paint before launching her for the summer. I've just had a look at her, as I was telling you. Her timber seems wonderfully sound, for her age, and the young folk have scraped it nearly clean. I put on my specs to make sure, and there isn't a scrap of tin, least of all an 1887 Jubilee tray, anywhere about her. Away you go and see for yourself—with your specs on, of course—for I think that's Duncan's car coming down the brae from Ardfuar now and we won't want to keep him waiting.'

Approaching my ancient friend lying there on the grass, I felt like taking off my hat in respect for her age, and her history, linked as it is with my own happy past. I could see a good job had been made of the scraping, and

certainly no tin at all remained on the bare planking.

I SCRAMBLED back to the track, where I was introduced to Duncan, and off we went, jolting and bumping along that deplorable road until, passing the new house on Brass Foreland, we rolled on a well-surfaced stretch towards the village. Then Duncan stooped to pull from under the driving-seat a flat object done up in brown-paper and, handing it to Mrs Gillies, said: 'Florrie told me to give you this as a memento of the old coble and because you're so interested in curios generally. It's only a battered tray we yanked off her bilges when we were cleaning her up, but on it is a picture of Queen Victoria and an inscription about Her Majesty's Jubilee, dated 1887. I suppose it has a history, and if anybody knows anything about it, I'm sure you will!'

I knew Mrs Gillies was trying to catch my eye, but I pretended to be busy having another look at the gaps in the shoreside woods until, nudging me, she said: 'I'll expect to see you over at the Castle before you leave Glenshelister. In the meantime, don't you get in tow with Niall Og—him with the wonderful memory and the long tongue! And remember yon about not telling it in Gath or publishing it in the streets of Askelon, or, when you do come to visit me, you'll get the job of polishing my grannie's Jubilee tray, and that'll serve you right!' Then, as they dropped me off at Glenshelister post-office, she began to laugh; and, although Duncan couldn't possibly know what was amusing her, they were both laughing merrily when the car rounded the bend and disappeared under the trees on the riverside road to the Castle.

Golden Pilgrimage

*It was a day for wandering
Long golden miles afield
To seek the golden magic
Of waking lane and weald:*

*For gold was in the morning
And gold was in my heart,
And golden was the blackbird
Who bade me up and start.*

*And though my purse was empty,
Snug in my pocket lay
A pouch of golden pleasure
From which to fill my clay.*

CHARLES KELLIE.

Khaki Rang

The Story of a Military Revolution

J. M. BRERETON

IN December 1846 a young Scots lieutenant, Harry Lumsden, received orders to raise a troop of cavalry and two companies of infantry at Peshawar expressly for service against the turbulent Pathans of India's North-West Frontier. The authority for these orders was Sir Henry Lawrence, Governor of the Punjab—and a personality sufficiently bold to flout centuries of military tradition and to lay down the heretic dogma that 'in order to get the best work out of the troops, and to enable them to undertake great exertions, it is necessary for them to be both loosely and comfortably clad.'

This was the heyday of regimental splendour—brave scarlet, blue, and gold, dazzling pipe-clay, uniforms of almost skintight cut, little changed from those which had confronted the French at Waterloo. Even though the tactics demanded in the barren Frontier hills and on the dusty plains of the Punjab were vastly different from those of Waterloo no one in authority had hitherto dared to suggest any radical departure from the gorgeous panoply of the parade-ground.

Lumsden, well-versed in the ways of the Frontier and its warriors, was quick to applaud his superior's wisdom, and to interpret it after his own unorthodox fashion. Repairing in person to the bazaars of Lahore, he bought up all the white cotton cloth to be had. This was then taken to the river, soaked, and thoroughly rubbed with mud until its colour was scarcely distinguishable from that of the drab river-banks. Dried and ironed out, the material was finally cut and stitched.

Thus it was that when Lumsden's small force—later to win glory as The Queen's Own Corps of Guides—held their first parades they astonished their red-coated comrade units by appearing in the unmilitary garb of drab-

coloured blouses and baggy pants, or *pajamas*. Understandably enough, the mud-bath treatment was not very effective in producing a permanent camouflage effect and various other substances were experimented with, the most successful proving to be the juice of the local mulberry-tree. This resulted in a slightly yellowish tint, which merged remarkably well with the pervading hue of the Frontier landscape. *Khaki rang*—'dust-colour'—was the Hindustani name given to it by the troops, and it was not long before the Guides were being referred to, unofficially, as 'the Khaki Wallahs'.

Little though they realised it, Lumsden and his sepoy had sowed the seeds of a military revolution. While its growth went almost unnoticed by the authorities at Calcutta and Whitehall, it was one which was eventually to sweep away all the pomp and circumstance of soldiering, and to create a profound effect not only on every regular army in the world, but also on the very conduct of warfare itself.

WHEN the Guides had been in existence for two years, Lieutenant William Hodson was appointed adjutant and second-in-command. Attentive to details of administration and equipment as well as to training, the future founder and commandant of Hodson's Horse became dissatisfied with the indigenous cotton uniform material and enlisted the aid of his brother, the Rev. George Hodson, to obtain better stuff in England. The Guides must surely be unique in having employed a clergyman as ex-officio quartermaster. In 1848 the reverend gentleman duly executed the first of several commissions for the supply of 'drab' material, as well as for suitable helmets for the officers,

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with the result that in the following year his soldier-brother was able to write: 'Many thanks for the trouble you have taken about the clothing for the Guides. Sir Ch. Napier (Commander-in-Chief) says they are the only properly dressed light troops he has seen in India ...'

The first unit ever to wear khaki, the Guides* have remained faithful to it for peace and war, ceremonial and service, throughout their gallant history.

Despite the approbation of the C-in-C., however, 'the Khaki Wallahs' lead was slow to be followed by other units of the old East India Company's army. Tradition dies hard among soldier and official alike, and it was not until the Indian Mutiny of 1857 that, stimulated partly by shortage of supplies, the wearing of khaki or 'drab' service dress became more general. Many of the regiments hastily raised in the emergency—among them Hodson's Horse—adopted uniforms of varying dusty hues. Even so, the fashion remained sufficiently novel to excite comment among the conservative-minded. The Meerut Volunteer Horse, formed soon after the outbreak, was known throughout its brief existence as 'the Khaki Risala'—that is to say, 'the Khaki Cavalry'.

SO far we have been concerned only with the Indian Army. At the time of the Mutiny, and for several decades afterwards, British regiments serving in the East customarily wore a tropical kit of white cotton drill during the hot weather. Though combining a certain degree of comfort with smartness of turnout, this was scarcely better than the red coat for concealment purposes, and the distinction of being the first British Army unit to discard it for the more practical khaki is generally accorded to the 52nd Foot, now the Oxfordshire and Buckinghamshire Light Infantry.

This event took place at Sialkot on 25th May 1857—just a fortnight after the revolt of sepoy at Meerut. In a subsequent letter to the editor of the regimental journal the Commanding Officer of the 52nd, Lieut.-Colonel Campbell, established his claim:

* Now represented in the Pakistan Army by: The Guides Cavalry (Queen Victoria's Own Frontier Force) and the 5th Bn. (Queen Victoria's Own Corps of Guides), The Frontier Force Regiment.

'I have this morning received yours anent Karkee Rung, and I have only just time . . . to say I was the first to introduce this colour for the European troops. I had a suit per man of the white clothing dyed at Sealkote immediately I arrived there from Lucknow, and we marched out of that place, to join the Punjab movable column, in it.

'My reason at that time for adopting it was the ulterior view of diminishing the Indian kit on account of the difficulty of getting the white trousers and jackets washed quickly. The men were obliged to have 5 pairs of white trousers, whereas with the karkee 2 were sufficient. Moreover, I thought it would be a good colour for service.'

It is only fair to add that the 52nd's claim to be the first khaki-clad British unit in the field is disputed by the 61st (now the Gloucesters), who maintain: 'We dyed our white uniforms a sort of bluish-brown colour, known out here as Karky, before leaving Ferozepore for Delhi in May, 1857.'

By the close of the Mutiny operations in 1858, most of the units engaged, British and Indian, had acknowledged the value of a neutral-tinted service dress by adopting their own several varieties. But lessons learned in war are often forgotten in peace, and when the fighting was over nearly all British regiments reverted to the parade-ground conventions of red or blue serge, or white drill.

Nevertheless, in the Indian service the seeds of Lumsden's revolution had been well-nourished. Between 1860 and 1870 a khaki field-service dress became fashionable, and the Second Afghan War of 1878-80 saw its general adoption among all Indian units. An attempt in 1861 to introduce a similar dress for British troops was strenuously opposed by the authorities: it was even claimed that the soldier himself viewed the drab, *multi*-coloured stuff with such abhorrence that he refused to walk out in it, and so 'spent the evenings in the canteens, with the result that there were many cases of drunkenness.'

Moreover, it seems that the Queen herself was not impressed. 'A sort of café-au-lait shade, quite unsuitable for uniform', was Her Majesty's alleged comment on being shown some samples.

AT length, after more hard fighting in the Sudan and in Egypt, rumours of the

possible merits of this unsoldierlike attire began to percolate into the inner fastnesses of Whitehall. Possibly at the instigation of H.R.H. the Duke of Connaught, who had observed its potentialities while commanding the Brigade of Guards in the Egyptian Campaign, some tentative steps were taken at home during 1881. In that year the 39th Foot (The Dorsets) caused a minor sensation among the garrison and public of Chatham by stepping out in loose-cut creations of grey tweed. It is scarcely surprising to learn that these 'did not please the authorities', and were hastily withdrawn. Nothing daunted, the Uniform Committee tried again, and three years later the obliging 39th gave a public performance in drab serge suiting. The first recorded issue of anything nearly resembling the present-day battle and service dress material, this was a great improvement; but, alas, the material failed to wear satisfactorily, and once more the experiment was abandoned.

The main problem so far, at home and in India, had been the evolution of a suitable dye, fast and hard-wearing. Perhaps one of the reasons for the unpopularity of khaki was the fact that the long-suffering soldier had to dye, or rather stain, the material himself, such process being left entirely to the make-shift ingenuity of individual units. Many and curious are the recipes recorded: mud and mulberry juice were followed by tea-leaves, coffee, curry-powder, even 'a concoction consisting chiefly of gunpowder'. Naturally, every time the material was washed the whole sorry business had to be repeated, and, as may well be imagined, the results were anything but 'uniform'. Lieut.-Colonel A. A. Kinloch, commanding the King's Royal Rifles at Darjeeling, complained: 'I have lately had a parade of this Depot in "Khaki", and of about 200 men of eight different Regiments, there were hardly two men alike . . . There were all shades, from a dirty greenish brown to snow-white (which had once been dyed), and many of the colours were patchy and streaked. The old suits of "Nankin" cotton worn by one Regiment were as white as if they had just been bleached . . .'

AS so often happens with revolutionary developments, the solution to this problem came about in a casual fashion. During a visit to India in 1883 a Mr John Leemann of Lancashire chanced to meet

Colonel Kinloch. The conversation turning to uniforms, the Colonel remarked that there might well be a fortune awaiting anyone who could produce a fast, serviceable khaki dye which would do away with all the messy and stinking amateur concoctions. Mr Leemann possessed all the astuteness of a Lancashire businessman; and if he had not pondered this idea before, he did so now. Returning to England, he sought out his friend Mr Frederick A. Gatty, a chemist of some repute, who was already known in the East for his invention of the 'Gatty red' dye.

The result of this meeting may be told in the words of Mr Philip Gatty, grandson of the inventor and director of the present-day firm which bears his name:

'My grandfather was sufficiently interested to commence experiments, knowing that something original would have to be discovered; no dyestuff for the shade required was available which would afford the necessary fastness to light and washing.

'He commenced with "iron buff", the oxide of iron still too common (as a brownish stain) on one's handkerchieves from the laundry. The problem was to find another equally fast mineral dye of a greenish tint, which would work with this rather yellow brown and so give the shade known as khaki.

'After considerable research, he found that the element chromium was suitable, and the combination of iron and chromium oxides on the fibre was his invention. This process was patented by him in 1884: it is still the method used, and is still the fastest-known dyestuff to light and washing for cotton materials.'

Very shortly after the patent was taken out, samples of the new khaki drill were sent to India, where they were tested by battalions of the King's Royal Rifles and the 14th Sikhs. The results were so satisfactory that they were published in a Circular Memorandum from the office of the Adjutant-General in India, and all commanding officers were urged to give the material a trial in their own units. During the next ten years 'Leemann & Gatty's Drill', as it was then known, became officially adopted for service dress throughout India.

By this time the Frederick Gatty concern had established a dye-works at Preston and had entered into an agreement with Messrs E. Spinner & Company Ltd, of Manchester, who were to supply the cotton material and handle

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the sales and export of the finished product—an arrangement which has persisted to this day. Inevitably, other firms were soon to enter the field, but it is to these two that the credit must be given for the pioneer work and its successful development. In 1893 Messrs Spinner received the following letter from Major E. A. Travers, Military Secretary to the Commander-in-Chief in India:

'Lord Roberts directs me to inform you that he fully appreciates the benefits which have accrued to the Army in India, both British and Native, through the introduction of Messrs Leemann & Gatty's fast dye, and offers you his congratulations on the success of the invention. The appearance of Troops of all arms when dressed in Khaki has, in Lord Roberts' opinion, improved immensely since your goods have been generally adopted.'

And it was not only from such august sources that recognition was forthcoming. Towards the end of the century an anonymous wag was moved to verse in one of the Indian papers:

*Oh the Dashty-dash were a Khaki corps
And nothing but Khaki dress they wore,
And every evening they sat down to dinner
With the whole of their mess-kit provided by
Spinner;
They wore Khaki jackets and Khaki bags,
And in lieu of handkerchieves Khaki rags;
They had Khaki boots (which you need not
clean)
And a Khaki tie which was scarcely seen;
They had Khaki cloth and Khaki braid,
And the board with a Khaki cloth was laid;
But the pride of their kit was a Khaki
shirt
Which you needn't wash for it wouldn't
show dirt.*

LIKE tradition, pride in regimental distinctions of uniform is jealously preserved, and although khaki had now become obligatory for service wear in India there were many units who clung tenaciously to the last vestiges of full-dress. Coloured facings and piping, white cross-belts, and trousers or breeches of regimental pattern were incorporated in the new pattern—with or without official sanction—and continued to be worn for many years. When Field-Marshal Lord Birdwood joined the 12th Royal Lancers as a subaltern at Bangalore in 1885 he described the service dress as 'a curious get-up, con-

sisting of khaki coat, white helmet with khaki cover and neck-pad . . . and gold-laced blue pantaloons.'

It was the South African War of 1899-1902 that finally set the home authorities' seal of approval on khaki and sounded the death-knell of parade-ground magnificence. 'The last of the gentleman's wars', this was the first full-scale campaign in which all troops, British, Indian, and Colonial, were officially issued with khaki field-service uniforms. With its close—just over half-a-century after Lieutenant Lumsden had paraded his unconventional irregulars at Peshawar—there came the first official directive from Whitehall.

Army Order No. 10, of January 1902, authorised the adoption by all arms of the British forces, Regular and Militia, of a service dress 'designed with a view to furnishing a comfortable uniform, light enough to be worn on service abroad, and in warm weather at home, and also, with the addition of warm underclothing, for wear in winter at home . . .' Comprising tunic and trousers of a 'drab-mixture' serge, together with flat peaked-cap and puttees, it was the uniform which, with minor modifications, was to remain in wear throughout the British Army until the introduction of battledress in 1937.

Strictly speaking, the term 'khaki' should not be applied to either prototype or to the modern serge uniform: the correct description is 'drab'. But ever since the early Indian experiments the word has been popularly employed to cover all the multifarious shades adopted and discarded, from the true 'dust colour' to light brown and deep olive-green. It may be added, too, that the original serge dress exported to India by Spinner's and Gatty's was 'piece-dyed' (i.e. after weaving), to a shade matching as closely as possible the existing khaki drill. Nowadays the material is dyed 'in the wool' (before spinning or weaving), and a number of different wools are blended to produce the characteristic greenish-drab in the woven piece.

When the British Army went into 'khaki' service dress in 1902 a precedent was created. Hitherto the arbiters of military fashion had been only too ready to ape foreign ideas—many of the distinctive features of regimental full-dress had their origins in Continental armies; but now it was Britain herself who set the fashion. By the end of the 1914-18 war nearly every regular army had followed her

lead: while some evolved their own peculiar hues, such as the German 'field-grey' and the French 'horizon-blue', the greater number were content with the original khaki theme.

Khaki may not be an inspiring colour for military uniform. But in a century of service

it has earned traditions as honoured as those enjoyed by the old red coat, and, though copied by half the world, is essentially British in origin. Devised by a British officer, first bloodied by the Queen's forces, pioneered by British industry—khaki must remain for ever associated with the soldiers of Britain.

A Luther Discovery

LEONORA McNEILLY

IN browsing around old bookshops or curiosity shops in search of the unusual, one is seldom rewarded by a find of any supreme value. Such was not the experience of the writer, however. My find was almost unbelievable.

It was some time ago when, meandering through a junk-shop in Newry, County Down, Northern Ireland, I rescued from an ignominious fate what appeared to be a unique copy of the first and broadside printing of the famous Ninety-five Theses Against Indulgences of Martin Luther. The document was heavily framed in mahogany, and rather soiled. It measured thirteen and a half inches by nine and a quarter. And evidently it was regarded by the proprietor with small respect, since it was reposing on a heap of rubbish on the floor of the shop.

'How much do you want for this?' I queried, approaching the dealer.

He scratched his head. 'Three shillings, miss,' he answered, eyeing me narrowly, lest I think the price exorbitant.

Fearing he might repent of his bargain, I hastily paid him and left the shop—with the broadside.

I WAS of no mind, however, to allow this famous broadside to remain in the Emerald Isle, where it bade fair to go 'unwept, unhonoured, and unsung'. I had a hunch that it was valuable. Crossing the Irish Sea with

it, I did not stop until I arrived with the Theses at the British Museum. There, after due deliberation, three experts attested to the broadside's authenticity, but suggested that for their own satisfaction and that of myself further expert advice be had, a suggestion promptly carried out. Finally the report came through that the broadside was, indeed, original.

Eventually it was listed with Sotheby's of New Bond Street, who held it for auction in due course. In the interval it was extensively advertised throughout the Continent and the British Isles as follows:

LUTHER, MARTIN (*Disputatio pro Declaratione Virtutis Indulgentiarum*). * Begins: *Amore et Studio elucidande veritatis: hec subscripta disputabatur Wittenberge. Presidente R. P. Martino Lutther: Artili et S. Theologie Magistro: eiusdemque ibidem lectore Ordinario. Quare petit: ut qui non possunt verbis presentes nobiscum disceptare: agant id literis absentes. In nomine dñi nostri ihesu christi. Amen.* † broadside GOTHIC LETTER, TWO

* Disputation for a pronouncement on the rightness of indulgences.

† Out of love for the truth and from desire to elucidate it, the statements given below are to be put forward and disputed at Wittenberg by the Reverend Father Martin Luther, Master of Arts and Sacred Theology, and ordinary lecturer therein at that same place. Therefore he asks that those who cannot be present to dispute with him orally shall do so in their absence by letter. In the name of our Lord Jesus Christ. Amen.

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columns, a few wormholes repeated owing to the sheet having been at one time folded in four, a tear in the left-hand column skilfully mended, unbound. (13½ in. by 9½ in.)

THE ORIGINAL EDITION OF LUTHER'S FAMOUS NINETY-FIVE THESES AGAINST INDULGENCES AND ONE OF THE MOST IMPORTANT BROADSIDES EVER ISSUED.

FROM 31st October 1517, the day on which Luther affixed a copy of the broadside to the door of the church in Wittenberg Castle, the whole Reformation movement takes its start. The Ninety-Five Theses were immediately famous and were reprinted in a quarto pamphlet before the end of the year, and frequently afterwards. The first quarto edition has occasionally been offered for sale, but never the original broadside, as far as can be ascertained.

There is no copy of the broadside among the great store of Luther material in the Crawford collection, though in the introduction to the catalogue of tracts by Luther and his contemporaries it is referred to in the following terms:

Foremost among the tracts by Luther in point of time, importance, and rarity is the Disputation condemning the traffic in Indulgences. It was the usual practice, and there is evidence of its continuance during the sixteenth and the greater part of the

seventeenth centuries, to print Theses for academical dispute as broadsides so that they might be posted up in the place where they would come under the notice of all the members of the University. The earliest edition of the Theses is in this form.

A. von Dommer records no copy in the Luther Collection of the Hamburg State Library. A. Kuczynsky, in his *Thesaurus Libellorum Historiam Reformationis Illustrantium* (1870), which records nearly 3000 publications, refers to the quarto edition as of extraordinary rarity and importance, but does not mention the broadside.

MEANWHILE, the broadside, which had created such a spiritual upheaval in 1517, now began to create an upheaval of another sort. Art connoisseurs, historians, and collectors of one kind and another from all over Europe hurried to the auction in response to press notices. The find had created a furore in London. Excitement ran high; bidding was keen. In the end, this relic of those far-off troublous times, which had been purchased for three shillings, passed into the possession of L'Ancienne Association d'Art of Lugano, Switzerland, for the price of £330—an insignificant figure compared with that at which it will, no doubt, eventually sell, and infinitesimally small when considered in relation to its real value. That cannot be reckoned in pounds, shillings, and pence.

Airing the Quilt

*The house has put out its tongue. Red as the roof-top,
A quilt lolls out of the window, a flag for spring,
With the sudden brightness of a poppy. All the sunlight
Suddenly flares there, in its scarlet burns
A hope of summer. Windows are wide as lips
Parted to sing, and over the cotton-blue
Of the rain-bleached sky, birds scatter like a string of notes,
Motet and ground and quick, sharp music of spring—
White linen blowing, white blossom in the wind,
And daisies, whose quartz-white crystals stud the grass,
Till children, spinning their daisy-chains, look up
To see starred earth and starry sky made one.*

MARGARET STANLEY-WRENCH.



The Choil

H. MORTIMER BATTEN

AT the mouth of the cave, squirming and groping among the patches of thawing snow and the little ridges of dry sand, lay something which was obviously an infant. So small and feeble was it that one would never have judged it to be the offspring of the mightiest fur-bearer in the world, for grizzly cubs are born at a very early stage of development, generally while their mothers are still sealed in the ice of their hibernating dens, and there they remain for many days shut in the darkness with her. But this old she-bear had not hibernated in the true sense. It had been a mild winter and she had prowled hungrily through most of it. Now that spring had come she was on the move again while most of her kind had hardly wakened, and so her cub, in its extreme infancy, had squirmed from its warm bed evidently in search of what its small body needed.

It shrank from the cold snow, and eventually fell asleep on one of the dry ridges which caught the sunshine. There was nothing very strange about all this; the strangeness lay in the fact that placidly keeping watch over it was a creature which was obviously not related. It was an old dog coyote, a prairie-wolf of the far-flung ridges, and certainly there was nothing evil in his presence there. Surely

a coyote will kill anything it can catch and carry. Yet the old dog had clearly no intention of harming the defenceless little creature so completely at his mercy. On the contrary, he seemed anxious about it, knowing it had no right out there, yet he was afraid of touching it, as the constant twitching of his ears indicated.

Presently there sounded a heavy step on the snow near by, a mush—mush—mush, laboured yet soft, and a shadow loomed down upon them. In the slanting sunbeams it was an immense shadow, and there she stood, high-shouldered and stooping. Then she came swinging on from rock to rock with something of the quickness of the marten for all her tremendous weight. It was the grizzly mother.

She passed within six feet of the coyote, yet neither of the animals responded in the least to the other. The coyote blinked sleepily in the bright light; the she-bear looked through him and beyond, if she looked in his direction at all. She was carrying something white dangling from her jaws, probably a snowshoe rabbit, but at the cave-mouth she dropped it and, taking up the cub, swung with him into the darkness. When she was gone, the coyote looked covetously at the food so

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near and licked his chops, but he did not touch it.

Within half-a-minute the huge hulk of the grizzly again blocked the dark entrance and for a moment she stood over her mangled quarry, swinging from her forepaws. She gave it a chop or two, then shook it and tossed it aside, and the coyote caught it in mid-air. Clearly she did not want it, so the other beast hastened off with it to feed, surely an indication of partnership, one of the strangest imaginable. Yet such alliances among animals of the wild may be more common than man knows.

The hunting Indians of that part of the great Skeena Valley knew, by their natural insight into such things, at least something about this particular partnership, but they refused to be drawn. It was clear that the coyote, ever adaptable after the manner of his kind, ever alive to the opportunities of the moment and quick to choose the roads of least resistance, had attached himself to the master hunter. He had been her shadow through that long winter, always near, but never quite within arms' reach—he was too wise for that. He hunted with her, gleaning up what she left, as the pilot-fish hunts with the shark. There was probably not much affection between them. Each trusted the other so far as its usefulness extended, so the coyote must have been of value in the grizzly's hunting, or she would have swept him from her path. These things we shall see.

AS the sun warmed the cold and sodden earth, the she-bear again appeared at the den-mouth having, apparently, fed her cub. She stood for a few seconds in the full sunshine, as though to test its value, then she went back and presently appeared nosing and pushing the cub in front of her. He looked absurdly small beside her, no bigger than one of her forepaws, and he uttered absurd little whimperings, like rubbing one's finger on a wet pane of glass. Presently she lay down, her huge hindquarters sprawled apart, the loose skin of her body puckering into rolls and ridges, and, holding the cub between her forepaws, she proceeded to lick him over.

Not five feet away lay the coyote, looking on with shining eyes, and as the huge mother caressed her insignificant son he began to belly up, whimpering impatiently, wagging his bushy tail, and switching his muzzle this way

and that. It was the first real day of spring. From far away came the occasional thunder of the glaciers, and there was a new taste, a new magic, in the air. Insects were hatching out, and there was a smell of warm resin from the jackpines. Indeed, a multitude of spring-time scents already filled the air, and soon would be added the scent of flowers, of the wild lupins casting a shimmer of blue along the sunny aisles, of the Indian paint-brush lending its oxidised crimson by way of startling contrast. The coyote was aware of this new magic, and the sight of the young thing made him want to play, to run in wide circles and act the silly puppy, more to amuse himself than the little one.

But the warm sunshine quickly vanished, and the first shades of night came creeping in like a cold, stern presence. The grizzly mother carried her son back into warmth and shelter, and when she re-emerged darkness had settled, save for that pale effulgence which seems to issue from the very whiteness of the snow.

She stood swinging at the cave-mouth, but that radio brain of hers was picking up many wireless messages of the night. She heard the roar and rush of the Skeena, though it flowed deeply through its own canyon many miles away. She heard the subdued conversation of a pair of snowy owls high in a Douglas across the lake, and as she listened she moved quickly out into the bush—quickly, yet with never a sound, till in ten minutes she was on the other side of the lake, which was where the world of reality began.

Grotesque and unreal she looked among the shattered timber, a creature which might have belonged to an earlier world. Every muscle, every nerve of her great body, was tense, for she was hungry—hungry with the gnawing hunger of many months of insufficiency. The sound came at length, and she froze, ears piercing the distance and yellow eyes in the same direction. It might have been the calling of a loon very far away, but the loons had not even reached the far-off Fraser valley leagues to the south. It might have been the crooning of a great horned owl, but the grizzly mother knew that it was not. Among the many sounds, she had waited for *this one sound*, and again it came, softly, unobtrusively, the call of 'Choil'. Uttered 'Cho-il', it was repeated three times, then the she-bear melted away in the direction from which it came.

THE CHOIL

EVEN the little herd of mule-deer grazing by the creek paid no attention to that call, though it was quite close to them. Half-a-dozen beasts, whose voices they knew, might have uttered it, even one of their own kind—a mule-deer yawning. It might have come from the softening swamps or from miles away above the snowline, one of those faint night-noises which convey no meaning and hold no menace. So they went on feeding till it came again, this time so close that they pricked their ears, then there followed from the same direction the smell of coyote.

There was still no need for alarm, but caution bade them take their beaten path, which led up the slope away from the sound. They went down wind, that is, so that they could keep the smell of coyote in their nostrils, though normally they would have passed up wind for fear of an ambush. The coyote they had heard and smelt was not hunting, so they were not afraid of him, but by chance he was coming their way, drawing closer and closer. He was now on their beaten road, and they broke into a trot. Still he came on, then again the cry of 'Choil', and he was still closer. They broke into a gallop, for they knew now that this side of the slope was unhealthy, and still they kept their olfactory cells tuned in behind them.

A windfall beside the trail suddenly crashed into life. It reared upwards, then came head-long through space with limbs outflung, and the leading buck went down under it. It threw the buck into space, and backing up the charge, caught him as he fell. It was death by violence if ever such there was, very sudden death that the buck could have known little about. He was dead before he hit the ground, back and neck broken, one horn snapped off at the coronet, and on top of him lay the mother grizzly, who truly had struck with the quickness of a marten.

For two minutes there was silence, then there appeared along the trail through the thickets by the way the deer had come a small dog coyote, head low and cunning, but bearing a triumphant leer from chin to ears.

IN the sheltered hollows of the forest at that season many a dog coyote was watching his den and carrying for his dam, and so far as one can judge the Choil was a strong young beast, who by nature should have been strictly tied to the pathway of duty. He was

fit and sleek, his coat was glossy and his eyes were bright; yet had you tried to convince the Indians that he was a normal coyote, they might have said nothing, but by their very silence you would have known that you were not voicing their belief. A normal beast they hold, lives normally, but a choil is one forced to live by the co-operation of another. He may follow the burrowing badger, for when a badger digs out the gophers some escape by their backdoors, and fall easy prey to one so swift as the coyote. The coyote is two miles an hour faster than the timber-wolf and by that narrow margin he lives. Where deer are plentiful, he may follow the wolf-packs, knowing that they kill more than they can devour, and on the other side of the world Indians of another kind know that not uncommonly the tiger has his choil assistant. Never is it a fit and normal coyote who lives by such abnormal means, though it may be one full of the wisdom of the trails. The wilderness has no fixed rules, but such is roughly the truth.

THE timber cruiser had come and gone, and rarely now did the cowhide mocassin leave its imprints on the bush-trails of the Skeena. Six years of war had shaken the world of civilised man, who seemed still to be licking his wounds in the security of the southern cities, reluctant to return to the world as God made it; yet one night the grizzly stood at her cave-mouth staring down into the valley at one lone, earth-born star. It glowed and flickered between the treetops like a thing alive, and the green light in her eyes indicated that she hated and distrusted it. Repeatedly she swung her great head towards the darkness of the cave as though fearful for the safety of her cub, and at length she moved to the shelf above, then quickly from shelf to shelf, and up and up towards the region of the buttes and higher even than the ptarmigan line, and there she began to cast about, searching for a new home.

For once the coyote did not follow her. He let her go, and remained wide-eyed and curious, still watching that twinkling star. For alas the fatal weakness of his kind was his—curious, curious, never content to leave a mystery unsolved. So he began to thread his way downwards towards the human camping-site by the Skeena.

That night Jim Farrington, in his lifelong

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search for pitchblende, was kept awake several hours by the howling of a coyote all round his camp. He might have slept through it but that this particular coyote had some defect in its voice, which caused it to tail off every third outburst with the isolated cry of 'Choil'. So he fell to waiting and listening for this particular utterance, for it was new to him, and dazed from want of sleep he began inventing all kinds of wild interpretations of its meaning. Anyway, he had no use for the thieving little varmints, and he had a friend away down Kamloops way who was within the bounty area. Therefore every coyote scalp Jim could collect was worth so many dollars.

Choil's summons went unanswered, for his mighty hunting partner knew more about man than he did. The scar across her throat told of a nearly broken jaw, and had the second shot been an inch lower it would have smashed in her face instead of glancing off her slanting skull. Somewhere at the head of the creek bleached bones and a broken rifle lay among the scree, so that both had suffered and neither had profited—the old, old story based on man's primitive desire to kill. But the grizzly remembered, for her kind have long memories, which is why it is always a case of the pack trail to reach grizzly country.

Next morning when Jim had finished his breakfast he threw his bacon rinds into the embers of his camp-fire and let them fizzle there, then, when the embers were dead, he drew a small corked bottle from his pocket and scattered some of the crystals it contained over the ashes. It was strychnine he used, because as a rule it kills quickly, and he had known wolves to drop where they had picked it up. But the cowboys will tell you that the coyote is difficult to poison, for he possesses the power of regurgitation to an unusual degree. Perhaps this is because coyotes feed their young more by regurgitation than any other of the wild dogs, as by nature they are hunters of small prey.

Two hours later, when Jim was over the ridge, the Choil lay in a shady place only a hundred yards from his camp-fire. So still it lay, it might have been dead, for the convulsive twitching of its muscles had now ceased, the last shuddering paroxysm was subdued, leaving him utterly exhausted, with only the slenderest hold on life. Had he remained there sleeping, he would almost certainly have died; only one thing could save

him now, the enforced working of his muscles, the coaxing of the torpid blood through his veins.

As the sun rose to its zenith, he forced himself to rise and stagger over to the river. He collapsed among the lily-pads and lay there drinking, drinking. He drank till there was insufficient warmth in his body to warm the water within him, so he got rid of it and then drank more, and so on till the shadows lengthened. Scientists may say that such a course would inevitably prove fatal, but a coyote is a coyote, toughest of a tough race. At any rate, he lived to hear again the coyote chorus at sundown, and as he listened, too weak to answer, his instincts divined a new meaning in its cadences. It was as though a still, small voice whispered to him: 'It is you they are after! You are being hunted by your own kind!'

CHOIL understood. For over a year now he had ranked among the unfit, an outcast ever in peril of his life, and there was no doubt that, at the present moment, even a cub of last spring might have slain him. It is a strange law of the wilderness that those who cannot hold their own must be slain, even by their own kith and kin, but it is world-old, based on the wisest and most ancient of rulings that it is better to die than to bring unfit offspring into the world. With some the smell of blood is sufficient condemnation, and wild cattle will gore and trample and finally kill one of their own herd with a copiously-bleeding wound. Wolves will destroy the mother of the pack sooner than leave her to live with a spear through her body, and a pack of coyotes, all staggering under the effects of arsenic, have been known to unite in a drunken brawl, each striving to put an end to its pack-mates.

So Choil knew that he must run or he was doomed, and he reeled into a lope, gaining strength with every bound. Half-blind, he did not know where he was heading, but instinct bade him run uphill, for in that direction was his mighty partner. He knew that the scattered pack behind him was gaining and, weakened as he was, they were bound to run him down, but he reached the first low cliffs and began gamely to ascend. And the small voice kept on muttering: 'They are hunting you! It is you they are after, and they are gaining!'

THE CHOIL

In and out among the spruces, then over the jackpine ridge, running in circles now, and the stars came out. This was the hour when he and his partner had hunted together, and even now she would be descending, perhaps searching and listening for him—waiting for the Choil.

When Jim Farrington returned to his camp that night he saw that some beast had scattered wide the ashes of his fire, saw coyote tracks zig-zagging everywhere, but there was no dead coyote. He had finished his supper when again he heard them, a whole family of coyotes, hunting by scent. He heard them cross the ridge, but he listened in vain for the strange call of 'Choil'—listened till the stars came out. Then at last he heard it. It was faint and far, but there was no mistaking it as it mingled with the voices of the hunting pack—the cry of 'Choil'.

At the gushing arm of the lake, where the screes on the other side rose steeply to the snows, Choil was forced to take to the water. The pursuing coyotes had fanned out on either side of him, so that there was no turning to left or right—he must go on or be dragged down at the margin. So in he went, his pursuers hard at his heels, but once in the water they could only follow by scent, and they soon lost him. So their leader swam straight, and on the other side they again fanned out, searching for his scent-line, and sure as death of finding it.

Perhaps Choil owed his life to those cold waters, for they set his blood tingling. He landed with chattering teeth, but bravely tackled the breast of screes and with courage enough to snarl over his shoulder, and when again the pursuing pack gave tongue, Jim muttered: 'A whole outfit of them, running a bobcat, I reckon.'

But the pack which was out to murder one of their own blood had little further to go, for at the shelf above the screes their fugitive turned at bay. There he stood, with bristling mane, forelegs widely braced, listening as they scrambled upwards, behind him the darkness of the cave, where once we beheld a different scene that first day of spring. Now the Indian paint-brush was flaming in the hollows,

the goldenrod swayed along the ridges, the forest glades were blue with lupins, yet in all the budding glory of spring we were to witness this bloody act—one of nature's children torn limb from limb by a pack of his own kind!

The leader of the pack came over the edge and saw his fugitive. His eyes shone red, his dark mane rose on end, there was murder, slant-eyed and terrible, in every line of his sinuous body, yet he waited for his pack-mates to rally round him. They came, not a family of last year's cubs left by their parents, but the ragtag and bobtail of the whole coyote community of the ridge, out for a grub-ticket and glad enough to have run to earth one whom they knew to be ill-equipped, for as the Choil leered back even a man would have seen in the starlight that his corner teeth were broken off, that the fangs without which he could not hold his quarry were entirely missing.

So up they surged, their bristling coats grey with ice-crystals from the lake, while the Choil stood at the cave-mouth waiting. But with never a sound there fell from above a black cloud of destruction. It landed in the very centre of the pack, and there followed the thud and crash and the world-old deadly sound of naked claws on bone, while, above all and predominating, rang the roars and snarls which hunters declare to be the most terrible sounds on earth, the war-cry of an enraged grizzly. Thud, thud, and the sound of limp bodies cast among the rocks, a dozen, twenty feet away. Then followed a silence which was complete and absolute.

Jim Farrington heard it all and for a time sat listening to the silence which followed. With nervous fingers he stirred the fire while that awful bedlam from the ridge rang in his memory. His limbs became tense as he waited, but still not a sound. There was no breeze, not even the slender leaves of the poplars trembled. Fearfully he listened, till the silence became ominous, and he knew that it was unwise to listen longer; yet clearly in his memory, growing ever stronger, came that strange call of 'Choil', and he wondered whether it held a meaning the eternal forests were hiding from him.

Antibiotics for Plants

E. R. WEBBER

ANTIBIOTICS are chemical substances produced by micro-organisms such as moulds and are capable of destroying certain bacterial infections or of preventing their growth. As is familiar, they are widely used in medical work, and several of them have become well known to the general public. Their use has now spread to agriculture and horticulture with many interesting results.

The first antibiotic to attain popularity was penicillin, which is a very powerful agent in preventing the growth of several types of disease bacteria. First noticed by the late Sir Alexander Fleming in 1928, it has been used on a large scale since 1941 and proved very valuable during the last war. It is derived from a mould, *Penicillium notatum*. Streptomycin and aureomycin are also extensively used in present-day medical practice.

In agriculture, aureomycin and penicillin are being used in animal feeding-stuffs, particularly for pigs and poultry. When used in this way, it is claimed that they cause the pigs to reach market-weight sooner and to be healthier and more vigorous, while with poultry growth is quicker and egg production is increased.

More recently most of the agricultural interest has been centred on the possible use of antibiotics to control certain bacterial diseases of plants and to improve their general health.

Antibiotic substances do occur in plants themselves, which may be the reason why certain varieties and strains of garden plants are more resistant to disease than others. It is known that extracts taken from apple-leaves have the power to slow up attacks of the common scab disease of apples.

The roots of varieties of tomato known to be resistant to fusarium wilt have been found to contain pentose and pentosan, which are both absent from susceptible varieties. This

wilt is caused by a fungus which can persist in the soil for many years and which infects the plants through their roots. From here the fungus passes into the water-conduction vessels of the stem, where it seems to produce a toxic substance which brings about wilting of the foliage and the eventual death of the plant.

Ascochyta blight is one of the oldest and worst of pea diseases and is thought to be produced by a combination of three different fungi. It was recently found that when peas were soaked in water for about eighteen hours and then dried at room temperature for a week the plants from these seeds showed a marked resistance to this ascochyta blight. To prove that this resistance was occasioned by an antibiotic substance in the peas themselves, similarly-treated seeds were dipped in a chlorine solution—chlorine being well known as having the property of inactivating many antibiotics. These chlorine-treated seeds showed no resistance to the blight.

It is probable that many of the micro-organisms which live in the soil possess antibiotic properties and have the power to keep certain soil-borne diseases at bay. When these particular organisms can be isolated, it will be a big step forward in the control of soil diseases.

MOST of the above work is still in its infancy. Much more practicable results have been obtained with the external application of certain antibiotic preparations to plants for the control of several serious bacterial diseases.

Plants are attacked in many ways by bacteria and the damage caused may appear in such forms as galls, wilts, rots, cankers, leaf-spots, and other symptoms of unhealthy growth. Wilts generally affect the whole plant, galls a

ANTIBIOTICS FOR PLANTS

particular part of the plant, while rots may appear at one place or involve the whole plant. The bacteria which cause these lack the green colouring-matter, chlorophyll, so they cannot manufacture their own food from carbon dioxide and water. They must, therefore, get it from some other source. To this end they live within the plant, spreading from cell to cell until the plants are finally killed.

Fire-blight is a bacterial disease of the apple and pear, which causes heavy damage and loss of crop wherever these fruits are grown. It has been responsible for the complete destruction of commercial pear-growing in the central and northern United States of America and recently it has reached epidemic proportions in the Missouri apple-producing area. The disease attacks the blossoms and young fruits and spreads to the actively-growing young shoots.

Initial experiments in 1951 by Dr A. E. Murmick of the University of Missouri indicated that certain antibiotics were capable of reducing fire-blight infection in orchards, while laboratory experiments confirmed that blight organisms grown on artificial media could be inhibited by these antibiotics used at very low concentrations. The antibiotics used were terramycin, streptomycin, and thiolutin.

Next, tests were carried out on one-year-old apple-trees grown in pots. The antibiotics, at various concentrations and in various combinations, were applied to the foliage, and a day later the disease was introduced by means of a hypodermic syringe. The results showed that the antibiotics penetrated the plant tissues and were able to counteract the effect of the introduced disease.

Large-scale field trials were then begun in order to confirm these results and to solve the problem of when and how often to apply the antibiotics. These trials did confirm the previous results, and it was found that a concentration of as low as one hundred parts per million gave complete and lasting control of the fire-blight.

In Florida, bacterial spot is a serious disease of the extensive pepper-growing industry of that state. At the University of Florida antibiotics were sprayed on pepper plants, and outbreaks of the disease were controlled within a few hours. In the same way halo blight of peas has been controlled.

For most of the above large-scale trials a commercial preparation known as agri-mycin, and consisting of both streptomycin and

terramycin, was used. These two substances seem to work well together in their control of disease. The streptomycin gives a quick control of the disease, while the terramycin seems to have the power of retarding the development of new resistant strains of the disease.

Work is also going on with flowers. At the New Jersey Experimental Station the bacterial blight disease of chrysanthemums has been controlled by dipping cuttings in a solution of streptomycin, and the same method has also proved effective for the bacterial wilt disease of carnations. Black spot of roses has been considerably reduced by this treatment.

Keen gardeners will be interested in a report from South India that two species of *penicillium* have been used to prevent the development of the crown rot which attacks many plants in the herbaceous border—particularly delphiniums. At present there is no effective remedy for this disease.

FROM bacteria and fungi we turn to the diseases caused by viruses. Viruses are disease-producing agents which are too small to be seen through an ordinary microscope and will pass through filters which will retain the smallest of bacteria. They are of great medical and agricultural importance, as they are responsible for such diseases as common cold, influenza, measles, foot and mouth, and several diseases of potatoes.

Plant viruses can be transmitted through vegetative propagation, by insects, and even by seed. Apart from various control measures as a preventive, there is as yet no remedy for them.

It has been found, however, that an antibiotic substance produced by a microscopic plant *Nocardia* will stop the onslaught of bean mosaic virus and tobacco mosaic virus. The infections were checked when the leaves of the plants were sprayed with this substance. It is too early to say whether this substance, or something similar, will prove the remedy we have been looking for, but the outlook is promising.

IN many of these tests and trials with antibiotics it has been noticed that many of the vegetables sprayed, as well as being freed from certain diseases, also showed a quite considerable increase in crop yield. In Florida, where

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agri-mycin was used, tomatoes showed an increase of up to 30 per cent in size over unsprayed fruit, while the yield was increased by over 150 bushels an acre. With peppers the same effect was observed.

With roses it was found that when the soil was sprayed with a terramycin preparation more vigorous growth was made and more flowers were forthcoming.

It would seem, then, that the use of antibiotic preparations on plants has many exciting possibilities both for the commercial grower and for the home gardener. The use of streptomycin and terramycin, either singly or in combination, can be said to be established as a control of certain important bacterial diseases of plants.

The antibiotic preparation known as agri-mycin is now on sale in the United States of America and supplies are available for official tests in the United Kingdom. For the commercial grower the price of this agri-mycin is rather high, but the recent construction of a £2½ million fermentation plant at Sandwich in Kent for the manufacture of antibiotic drugs should do much to bring the price down.

The available antibiotic commercial preparation is compatible with most of the commonly-used horticultural insecticides and fungicides and can be applied with the normal types of spraying apparatus. This horticultural preparation is a non-sterile commercial grade and must not be used for medicinal purposes.

Old Scottish Clockmakers

SHEILA STUART

(Author of *Antiques on a Modest Income* and *A Dictionary of Antiques*)

CONSIDERING that culturally Scotland was for many centuries a much more backward country than her neighbour, it is surprising to find that in the field of clock-making Scotland could stand comparison both with England and with the Continent. When mechanical clocks began to appear in Scotland there was what was termed a 'Common Knok', which was set up, in such towns as could afford it, in a conspicuous place to serve the townsfolk, and until about the end of the 15th century these clocks were usually of Continental make. They were costly to acquire, and expensive also to keep up, but by the beginning of the 16th century a start had been made with the manufacture of clocks at home, and artisans were learning to keep them in repair. But for a long time such craftsmen were few and their services were in great demand.

The art of clockmaking progressed slowly,

and it was not until about 1650 that the clock-makers had so increased that they received recognition as a branch of the locksmith trade, which in turn entitled them to be members of the various Hammermen Incorporations. One of the early meeting-places of the Incorporation of Edinburgh Hammermen was in the Magdalen Chapel, Cowgate, a religious foundation which had been left to them in trust in 1547. Its early wooden belfry was replaced in 1627 by a steeple with a large bell, but there was no clock until 1641, when the records state that James Alisone, Cupar, was asked to carry out the contract.

ABERDEEN was one of the earliest Scottish towns to have a Common Clock. It is not till the latter years of the 15th century that the names of *Scottish* clockmakers begin to appear, and one of the first is David

OLD SCOTTISH CLOCKMAKERS

Theman, who was working in Aberdeen as early as 1493. Aberdeen, indeed, seems to have been something of a pioneer among the Scottish cities in popularising the clock, and in the 15th century it could boast more native clockmakers than any other town, not excluding Edinburgh. Old Aberdeen notices, dated 1453, refer to the Common Clock as the 'orlage', a term which about 1597 was changed to the pure French 'horloge'. But from about 1533 onwards the Scots word 'knok' (plural 'knokis') was also in use, and in some country districts 'knok' still persists, although the word 'clock' seems to have been known as early as 1650.

It seems worth recording the names of that enterprising band of early clockmakers—William Wallace, 1533; Alex Lyndsay, 1537; David Elleis, 1560; John Kay, 1582; Thomas Gordone, 1595; and David Andersone, 1597, all of Aberdeen. In Edinburgh at the same period there were William Purves, 1539; Patrik Guvane, 1552; Robert Creych, 1570; and Adrian Bowdingis, or Bowdowingis, 1595. Purves was one of the earliest known of the Scottish clockmakers and he repaired the Common Clocks of the burghs of Aberdeen, Dundee, and Stirling, although he appears to have had his headquarters in the capital. Dundee had 16th-century clockmakers in David Kay, 1553, and a family of Ramsay brothers, but in Glasgow there are no men listed before the beginning of the 17th century, when George Smyth and John Neill are named in the records. Peebles, however, had two brothers named Frank, working about 1564, and in the small town of Kirkcudbright one John Hall was making clocks in 1576. The name of George Smith, who worked in Edinburgh about 1647, should also be included, as his was the first name to appear in the *Hammermen's Records* as having been admitted as 'a qualified knokmaker'. The name of his father, James Smith, had actually appeared there as early as 1629, but it was not till twelve years later that it was made clear that he really was a knokmaker.

Remembering the close business connections that existed between Scotland and the Low Countries in the 15th and 16th centuries, it is not to be wondered at that the art of clockmaking, which had reached us from the Continent, should be fostered most by towns which had easy access to the east coast. As a consequence the towns which figure most prominently in the records are Aberdeen,

Edinburgh, and, in a less degree, Dundee.

It is remarkable that even very small towns boasted a Common Clock. A notice regarding the Peebles clock, dated 14th November 1494, states: 'Item, the burgh mails are assigned to Sir Thomas of Craufurde for his clerk's fee and to Sir Patrik of Stanhous for his fee for keeping of the knok.' Again, existing records of the town council of Kirkcudbright have documentary evidence to show that the clock there was one of the oldest in the kingdom and that it came from Holland. A notice from Haddington, dated 14th November 1539, says: 'the which day the council think it expedient to complete the Knok House,' and a further notice of 12th October 1540, states: 'The council ordained the Treasurer to make dilligens to set up the Knok at Candlemas.'

A certain Bishop Mitchell of Aberdeen was deposed from office in 1638, fled to Holland, and while there in exile earned a living as a clockmaker.

By the middle of the 18th century clock-making in Scotland had reached a very high level, and for a time there was a vogue for producing clocks with unusual features. One such clock was made by John Smith, Pittenweem, towards the end of the century. Made of fine mahogany and standing seven feet high, this grandfather-clock played eight tunes throughout the twenty-four hours, told the days of the week, and had on the dial an inscription which appeared on the Sabbath, 'Remember Sunday'. To emphasise this, the music ceased from midnight on Saturday till midnight on Sunday, when it resumed for another six days. About 1730 the then Duke of Argyll, said to have been a skilled craftsman and mechanic, made a clock which went for over thirty years, having been wound up only once in that time. The case for the clock was constructed from the skeleton of a favourite horse.

Although Glasgow lists no knokmakers earlier than 1627, in a contemporary notice relating to the Town Clocks of Glasgu (old spelling) there is the insertion, dated 30th June 1576: 'Item to Daud Kaye in Carrail (Crail) for his expensis in remanyng about the knok, he being send for.' In a notice of somewhat later date there is a distinct French flavour: 'appoint the provest and John Walkingschaw to deal with James Colquhone, anent the couleuring of the horologe in the Tolbooth.'

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ALTHOUGH there is so much reliable information about old Scottish knocks and knockmakers, it is more difficult to trace the beginnings of watches in Scotland. This is natural when one remembers that the Common Clocks were publicly owned for the use of all citizens, while a watch was entirely personal, and even in the 16th century was considered such a luxury that some authorities believe its possession to have been confined to royal personages. David Ramsay, who worked in Edinburgh and Dundee, and latterly in London, between 1600 and about 1650, is generally accepted as having been the first Scotsman to become a watchmaker.

It is not certain where he learned his craft, but possibly in Dundee, as it is believed he may have been a member of the Ramsay family who for a time had charge of the town clocks. However, specimens of his work in the British and South Kensington Museums bear out the fact that he spent part of his apprenticeship in France. James VI admired his work and he gained added distinction when he was appointed clockmaker to the King. The Ramsay watch in the British Museum, supposed to have been made about 1600-1610, is believed to have belonged to King James, and is inscribed 'David Ramsay, Scotus, me fecit.' Other royal honours were heaped on Ramsay, and in 1627 he became a Page of the Bed-chamber.

The only other Scottish watchmakers to become famous in the 17th century were the Roumieux, father and son—Paul senior, who had premises in Edinburgh between 1677 and

1694, and Paul junior, who worked there between 1682 and 1717. With the exception of David Ramsay, the father Roumieu is the earliest authentic watchmaker belonging to Scotland, and the watches he produced were both beautiful and artistic. The Roumieu workshop in Clockmakers Land, Edinburgh, was in existence for many years, but the house was demolished in 1835. Very few specimens of Roumieu senior's work are known to exist, but in the National Museum of Antiquities of Scotland, in Edinburgh, there is a watch whose dial of silver with a gold centre, is engraved with the name 'Roumieu, Edinburgh'. The father Roumieu died in 1694 and was buried in Greyfriars Churchyard, and his name is inscribed in the records of that old burying-ground as 'Paul Rowmie, Watchmaker.' His son, who inherited the business, was also skilled in the art of making watches. Edinburgh boasts, too, a well-known 18th-century watchmaker, John Cleland, who was working between 1761 and 1784, and an example of his skill, a lady's watch with an enamelled back, is also in the above Museum of Antiquities. Thus, although Aberdeen went ahead with great strides in the early days of knockmaking, Edinburgh in the intervening centuries has consistently outpaced her.

As has been mentioned, clockmaking only slowly received recognition by the old trade incorporations. Edinburgh, herself so prolific in clockmakers, made earliest recognition, in 1646. Glasgow followed suit three years later, but by a strange omission Aberdeen did not give recognition until 1800.

Oh, Will You Hurt My Sleeping Yet?

*Oh, will you hurt my sleeping yet
Who went from me this many a day
With all the words you used to say
That for my peace I would forget?*

*They reach me in the silence still,
The words you were so quick to find,
That edged the pathways of my mind
As pinks in sunny gardens will.*

*I hear them in the winds that weep
About the sweet syringa tree,
And when the blackbird sings—ah me,
I hear them, and I shall not sleep.*

P. E. C. DUCE.



The Somali

BRIAN CLEEVE

HE lay on the yellow sand, brown and slim and still, his head like a dark coal where the black hair curled close and tight against his round skull, a small wound like a blue violet above his heart. There was no blood yet, and the sand was still grooved under his curved fingers where he had clutched at it in falling. The smell of gunsmoke hung in the hot stillness of the air, and even the echo of the shot still seemed to be lingering above the bone whiteness and bleached greenness of the thorn-bushes.

The black soldiers stood round the dead man with their eyes round and white and their mouths open to show the pink, cushiony tongues that were saying 'Ayah, ayeee'. Because although this was wartime they had never seen a shot man so close before, and in each heart there was the thought beating, 'This might be me', and they were trying to think what it would feel like to be lying there, still and ended.

The Somali had been our guide—a tall man with a slender body and a head like a Greek carving cast in bronze. He had been showing us the waterholes in the empty, desolate expanse of desert that twenty black askari and myself were supposed to be garrisoning. He had been walking like a contemptuous king in

front of us, dressed in a strip of torn, faded khaki cloth, his tall thin spear in one hand as a staff and his short Somali dagger at his side.

The enemy were a thousand miles away to the north, already defeated as far as we were concerned, and we plodded through the brazen sand carrying our weapons and doing what we had been ordered to do as a sort of insane penance, a labour of Sisyphus laid on us by some milk-white gentleman in an office with Venetian blinds and a decanter of whisky and a soda siphon on a table in the corner. It was wartime, and we were soldiers, and we had to behave as if every thorn-bush hid an enemy, as if at any moment the hordes from the north might come floating out of the silk-blue African sky to steal our barren patch of desert with its population of giraffe and antelope and nomad Somali.

But because we were men as well as soldiers, twenty black and one white, led by our bronze statue of a guide, we had abandoned all the extremely tiring rules that the milk-white gentleman in the cool, curtained office would have imposed on us if he could—the advance in open formation with scouts ahead and flanking scouts and a rear-guard and an advance-guard, and platoon headquarters and runners, and rifles at the ready—and had come

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as far as we possibly could in a three-ton truck. And when, three or four miles back, the sand had got too soft for wheels, we had trudged along in a ragged column kept cool by curses. Yet now, impossibly and savagely, between one breath and the next, the guide was dead. One moment he had been standing on a slight rise of ground about twenty yards ahead of us, and in the next he had seemed to stiffen and turn half-round to face us, as if he was going to beckon us on. And then we had heard the shot, and he had fallen, knees bending slowly, body leaning, hands stretching out to the ground. When I reached him, he was dead, and the askaris gathered round like magpies with huge pink tongues, chattering their amazement.

I snarled at them in Swahili and they scattered like magpies, flinging themselves behind thorn-bushes and occasional rocks in a wide, uneven circle, rifles at the ready, bolts clicking, the remote, mysterious, white man's war suddenly close and terrible. This was why they had left the canoes in Lake Nyasa, and the young wives with eyes like velvet and breasts like ripe fruit. And they went 'Heugh, heugh' under their breaths and saw soldiers nine feet high creeping up on them through the empty, shimmering sand.

I knelt by the dead man and looked in what I thought was the direction of the shot. A hundred thorn-bushes two and three feet high; a milk-tree drooping its green-grey, poisonous fingers towards the sand; a few rocks. Nothing else. And then I saw something moving. A dark shadow. A man.

THE man had been behind the milk-tree, and he was carrying a gun, but it was much too long in the barrel and curved in the butt to be a service rifle, and he had no uniform. Nothing but a loincloth, like the dead guide, and the gun. He went from tree to rock and rock to thorn-bush, gradually getting further away from us, and I whispered to the sergeant beside me. He lifted his rifle to his shoulder, but I stopped him from firing, because it would be more valuable to catch the man alive if we could.

And so the sergeant took five men and they began running in a wide circle as if they were heading game, stooping low and taking advantage of falling ground to conceal themselves from the man they were hunting. Meanwhile I followed more slowly with the

rest of the askari, fanning out in a wide line that would have rejoiced the heart of the military gentleman who had sent us there, watching every bush, every rock for hidden enemies. Even the day seemed to be cooler, and I could feel my pulse beating quicker as I watched the man ahead of me. He was no longer taking precautions and had fallen into a loping walk, his gun at the trail. He never looked over his shoulder behind him, never saw the six men who had circled him and were now far ahead to his left and coming round in front of him. He never saw the trap closing any more than the gazelle sees the lion until the grass flames with yellow and the claws are in her flank.

'Heugh, heugh,' said the man beside me softly, and he looked at me with round white eyes and his face sweating with excitement. He thought that as soon as we caught the man we would kill him there and then, and I suddenly felt a chill of distaste for what we were doing. But it was almost done by now. I could no longer see the sergeant and his men. The man we were hunting was less than a quarter of a mile ahead of us, not bothering about concealment. I could see in the way he walked that he thought he was completely safe. And then suddenly he fell. Not slowly, like the man he had shot, but suddenly, as if he had been struck from behind. And then the sergeant and his five askari were piled on top of him, leaping from behind thorn-bushes and rocks like black leopards, and the hunt was over.

THE rest of us came up at a run and made a circle round the man as we had round the guide he had shot, staring down at him as he lay helpless on the sand. I looked at the gun first. It was an old, muzzle-loading musket, with Arab chasing on the barrel, and it must have been passing from hand to hand in the desert for nearly a hundred years. There was nothing of our war in its graceful, antique lines and arabesques.

'What does he say?' I asked the sergeant.

'Nothing, effendi,' the sergeant answered, and the man looked at me with sullen, secret eyes. He might have been the dead man's brother—the same carved features and small, graceful head, the same thin, proud body and pale, bronze-golden skin.

'Question him,' I said, and walked away to smoke a cigarette in the shadow of a milk-tree.

When I came back, the man's face was grey,

THE SOMALI

and I felt ashamed, but I had to know why he had done what he had done, because I would have to write a report. 'Well?' I said.

'It was a blood-feud,' said the sergeant. 'The guide had killed this man's brother many years ago.'

I looked at the man, but he looked away from me, uninterested in what I thought, and I became conscious that I was thirsty, and soaked in sweat, and that the truck was two hours' march away from us across a sand-crust that broke under our booted feet. The sky weighed on me like burning lead.

'Come,' I said tiredly, and the ragged column fell in behind me with the prisoner in the middle, and we trudged back to the dead man. And we buried him in a shallow, useless grave and trudged on again until we found the truck by following our own earlier footprints. And then we drove back to camp and tied the prisoner to a tree, and I sat down to write and tell my superiors that we had caught a murderer. 'Lieutenant Smith begs to report,' as if this was Sussex and I was a village policeman with a body in a ditch and a suspect locked in the bicycle-shed.

THE report was in quintuplicate, ending with a request for instructions, and through long empty days, broken only by emptier patrols, I sometimes imagined it finding its slow way south to Nairobi and the gentleman with the Venetian blinds, across brown, turbid rivers and down long, blindingly-empty roads through emptier desert, into the green hill-country of central Kenya, and at last, sweat-stained, crumpled, almost illegible, into the cool splendour of its destination.

And sometimes I thought of the reply, but not if I could avoid it. Because every day I had to see the prisoner, tied by a short cord to the trunk of a milk-tree, with a pan of water beside him and an empty pan that had held his ration of mealie-meal; or being exercised under guard round the cluster of grass huts and the white tent that formed our camp. Even with his hands tied behind him and his face leaning down to lap the water in his tin pannikin, he contrived to look like a prince, and I grew to hate the thought of his being taken to Nairobi and caught between stone walls. He would be old when they released him and the desert would have forgotten him. His taut, beautiful muscles would have grown grey and slack, and his belly would be wrinkled.

His wife would be old, or dead, and his children scattered.

I wished that I could have thought that he had no wife and no children, but I knew that he had, because every day a child came to sit with him, and one of the askari who could understand Somali told me that it was his son. He was a small boy, but already as grave and princely as a man, and he sat beside his father without crying, and without talking most of the time. But every now and then he would lift one of the pannikins to his father's mouth so that he shouldn't have to lap like a dog, and shame himself in front of the negroes and the white man.

WHEN, after almost a fortnight, I saw the messenger coming with the long-expected instructions, I was glad, because at least the waiting would be over, and the necessity of watching father and son sitting together in the shadow of the milk-tree, one bound by cords, because we had no handcuffs, and regulations state that prisoners shall be secured at all times, either under lock and key, or in bonds, and the other bound by love and sorrow.

I opened the envelope and read the message twice before I understood it. 'You will proceed to try the prisoner,' my gentleman wrote, 'and on finding him guilty you will proceed to execute him by firing-squad.' And there followed a jumble of numbers and clauses and sub-sections containing the authority by which I was so to act, with a thin remark in conclusion to the effect that any officer in my position should have known what to do without troubling headquarters for instructions.

I folded the message between my fingers, very slowly, and stared across the camp-site to the milk-tree, but without seeing it, or the two figures half-hidden in its shadow. The trial would have to be to-morrow morning, and then . . . I could see the man falling, knees bending slowly, body leaning, hands stretching out to the ground. And the wound like a blue violet above his heart. But none of the askari were very good shots, except the sergeant, and it would be hard to order him to do something I didn't care to do myself. The wound would have to come from me, and I felt in a sudden fury of anger with the stupidity that had let the child come into the camp. 'Send him away,' I shouted, 'send him away,' and I went

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into the tent to open a bottle of whisky, until I remembered that there was no whisky left. There were only three cans of lukewarm beer, and they tasted horrible, but I still drank them, because vaguely I felt that that was the sort of thing one ought to do, if one was a gentleman. Get tiddly in the evening, and the next day carry out the last letter of the law. But you can't get tiddly on three cans of beer.

THE night falls very suddenly in the desert. First there is a hint of coolness and the sky fades from electric-blue to turquoise. And then a little necklace of dark clouds forms above the western horizon and the setting sun touches them with gold and rose on their under-surfaces, and for perhaps a quarter of an hour there is a kind of evening, still and beautiful. And then it is dark, with only a bloodstain in the western sky to mark the death of the sun.

I waited for this first darkness, sitting in the mouth of my tent in such a way that I couldn't see the prisoner, and when it had fallen I went out into it and walked in the faintly luminous desert, feeling a little sick from the beer and wishing that my superior was walking here on the hard sand and that I was in Nairobi, drinking whisky and with nothing on my conscience but promotion. It would seem quite simple there. Thou shalt not kill. The law must be obeyed. But what did this man know about such laws? He lived by his own law, as the dead guide had done,

and the lions who padded in the velvet darkness hunting for antelope. A long way away I could hear a coughing, grunting roar that might be lion, or might be zebra imitating lion, and nearer at hand a thorn-twigg cracked under a heavy paw.

I thought of the message in my pocket. I thought of the man under the milk-tree with his hands bound behind him. I thought of his son that I had driven away from him that afternoon, and suddenly I couldn't bear my thinking any longer. I went back into the camp and kicked the askari who was sitting half-asleep on guard over the prisoner. 'Go and smoke,' I said. 'I will relieve you.'

He stumbled off towards his hut and I sat down on the still-warm sand, feeling for my pocket-knife. The prisoner looked away from me, not caring that I held his death or his life in the hollow of my mind, and even when I began to cut the rope that bound him he never glanced at me. From the first moment we captured him to the last he never spoke to me.

'You are free,' I whispered, 'can you reach water and your people?'

He nodded, and suddenly he smiled, one flash of white teeth in the darkness as he gathered his feet under him. I walked away, wondering what I had done, and when I looked round again he was gone, and there was nothing under the milk-tree but a cut rope and two empty pannikins. I lay down on my camp-bed in the mouth of my white tent, and waited for the sudden outcry among the askari that would foretell my punishment.

Mourning in Miniature

*A rainbow seen, and then unseen,
As though it's light had never been—
Oh, Love, is this what love must mean?*

*A laugh as soon as heard is gone,
And singing ceases with the song—
Could loving then our love prolong?*

*Your little hour was brief as theirs,
And lovelier you were than they,
Yet all our tears and all our prayers
Can bring not back our yesterday.*

*The rainbow lights another sky,
The laugh is broken on a sigh,
The singer sings . . . ah, no . . . not I.*

EGAN MACKINLAY.

Canoeing Across France

GABRIEL SEAL

I WAS pleasantly surprised to find at the end of my first season's canoeing that far from wishing to sell the boat, as my friends had warned me I should want to do, I was impatient to plan further and more ambitious trips. Inevitably my thoughts turned to France.

I opened an atlas. What a close network of rivers and canals the map revealed! What hints it gave of sunny, waterborne journeys in warmer and drier latitudes than ours! The Seine, the Rhône, the Loire, the Garonne—these long, broad rivers flowed like arteries through the body of France. I explored the map eagerly with my pencil-point. Suddenly the thought came to me: Why not cross France by canoe? In the security of an English cottage, the winter rain and cold shut out by snug curtains, the thing seemed simplicity itself. So when the dry March days followed I hauled the boat down from the loft and began to tinker happily with it in the spring sunshine—to re-cover the deck, to patch the keel-ends, to varnish the woodwork.

LOGICALLY, I suppose, I should have landed at Le Havre and canoed up the Seine to Dijon, and from there made my way to the Rhône and so south to the Mediterranean. But that is the logic of ants which eat their way through obstacles instead of walking round them. I preferred to travel by train to the centre of France and begin my journey from there. Later, I could return down the Seine. No canoeist in his right mind canoes upriver, I take it.

So one night in early April I stood on the deck of the Channel steamer at Southampton and watched the crane transfer my canoe from the quayside to the ship's hold. To me it was a strange, and rather impressive, scene. All round the harbour the cabin-lights of berthed

steamers stabbed the water. The three illuminated funnels of the *Queen Mary* glowed like lanterns in the darkness. And there was my canoe suspended at a breath-taking height above the deck, in full view of some thousand passengers. The man beside me laughed. 'That chap's takin' no chances,' he said. 'E's bringin' 'is own boat!'

There was more publicity in Paris. The canoe had now to be wheeled on its trolley from the Gare St Lazare to the Gare de Lyon, a distance of two miles perhaps; and anyone who knows the amount of traffic that converges upon the Paris crossroads will appreciate the difficulty of trundling a fourteen-foot boat through the thick of it. At the Gare de Lyon there were tiresome formalities, but the canoe was at last weighed, measured, and registered to the satisfaction of the French porters, and by nine that evening I was at Dijon, in the centre of France, with boat and camping equipment all set for the journey south.

IT was at Dijon, the very next day, that I came to grief. On paper the thing looked feasible enough. There was a canal marked on the map, linking Dijon to the River Saône; and there was a river called the Ouche. But in practice things didn't quite work out. I began on the canal, only to discover, after half-an-hour's canoeing, that there were twenty locks in the next twenty miles, and that, in any case, French lock-keepers don't open their locks to canoeists. So, resignedly, I drew my boat from the canal, strapped on the wheels again, and pushed it to the River Ouche. A group of factory-workers waved me 'Bon voyage' as I launched a second time within two hours.

Now, surely, all would go well, I thought. And for a time it did. The river twisted

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merrily among gardens and tall, grey-shuttered houses, and the spring sunshine was warm on my face. The sheer novelty, in that first hour or two, of gliding rapidly through France in a little boat of my own was exhilarating. But a few miles out of the town, things began to happen. There had been tree-felling in progress here during the winter, and many cut trees had been swept across the river by the floods. I alerted myself for action. I had managed to slalom my way through a number of wrecked branches before I came suddenly on a tree-trunk stretching right across the water, at a level of one foot or so above it. There was neither time nor space in which to manoeuvre, and, while I still back-paddled undecidedly, the river took control and pinned me fast against the tree. Next thing I knew, water was lipping over into the cockpit. Then the boat began to sink—to go down as a lift goes down; or as if some river-god were taking it, down, slowly down, to his weedy kingdom below.

I stood up, grasped the tree-trunk, and as the canoe turned turtle gave it a parting kick which sent it clear of the tree on a new, rudderless journey, upside-down! For a minute that seemed like an eternity I clung to the tree, struggling to get astride it, to work my way through the branches to the river-bank. There was no time to lose. If I didn't intercept the boat, I should be left in France with nothing but what I stood up in—to wit, a shirt and a pair of wet shorts.

For half-a-mile I ran barefoot through briars and nettles and river-mud, peering occasionally between the willows for some sign of the canoe. At last, having short-circuited a bend in the Ouche, I decided to call a halt and await developments. And suddenly, to my immense relief, I saw one of the waterproof-bags bobbing happily down stream, like a lost duckling to the farmyard. Anything salvaged from the wreck would be a positive gain. So, cold as the river was, I took off my shirt and plunged in. There was a fallen tree projecting from the opposite bank, and against this, having caught the bag, I let myself be carried. It made a convenient jetty from which to continue salvaging; for soon after the first bag came two more, supported by the air-lock inside them. These had each to be intercepted and brought ashore.

I decided to run back along the river-bank to see what had held the boat up. There wasn't far to go. At the very next bend I

spotted the blue hull of the overturned canoe—it was trapped in a tree-root, and was already half-submerged, only the bows end protruding grotesquely. I climbed down and tried to move it. Only by gigantic efforts could I raise it enough to let the water, bit by bit, pour out.

It was time now to think of my own predicament. There was not a stitch of dry clothing in the bags for me to wear, for, although the bags themselves were waterproof, the water had seeped through the knots I had tied round their necks. I looked around me. Across two fields there was a railway embankment, and about a mile down the railway-line a level-crossing-keeper's house. It was the only building visible in that wide sweep of farmland and copse—my one hope of shelter and dry clothing in a world of cold winds and wetness. I ran towards it.

An astonished French housewife admitted me, without question, to her warm kitchen and gave me a reviving tot of rum. Next she fetched some clothes of her husband's, and retired modestly to another room while I transformed myself from a South Sea Islander into a Frenchman. Then, the disguise completed, I set out again for the river and brought back—two laborious journeys this needed—my sodden clothes-bags to the house.

By five o'clock, when the keeper himself returned from Dijon, the kitchen looked like a wash-house. Every chair had been laid under contribution, and from two clothes-lines, tied from wall to wall, my shirts and vests and shorts now hung, like chastened prisoners after a taste of freedom.

I spent two days in Dijon, waiting for my equipment to dry out and replacing what had gone to the river-bottom. Then I made ready for the third and final attempt to go south. The question was: How was I to reach the River Saône now? It was a mere twenty miles, but it was Sunday, and there was no Sunday train. The canal with its twenty locks, the River Ouche with its fallen trees—neither was practicable. Suddenly the level-crossing-keeper had an idea. He would lend me his bicycle and I could rail it back to him when I reached the Saône. It was a generous and trusting offer, and I accepted it eagerly.

Trailing a boat behind a bicycle is slow perhaps, but not such hard work as it sounds. On the level roads and downhills, even a loaded canoe runs smoothly; it is only on the

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uphills that it begins to pull; and between Dijon and the Saône there were not many of these.

Broad, grey, slow-flowing—that is one's abiding impression of the Saône. Caesar, who reached it with his army two thousand years ago, found it so slow that he could not decide in which direction it was flowing! Fortunately I had a north wind behind me all the way. At first no more than a caress, it steadily increased in force, until on the third and fourth days of my journey it was like a gale at my back pushing me irresistibly forward, and changing the level river-surface to a rolling, white-crested sea. How I regretted not bringing a sail! Almost without my paddling, the wind was carrying me forward at a brisk walking-pace; and with a simple lugsail I should have scudded along like a leaf down a draughty corridor.

THE Rhône is the fastest of the big French rivers. Six miles an hour it averages, according to the canoeist's guide-book I had bought in Paris; ten miles an hour in the rapids. This was faster than any river I had yet had experience of, and with some trepidation I stood on the big bridges of Lyon watching the current flow under them. But in fact, as there are no rocks or trees in the river-bed, there are no dangers. One has merely to sit tight and keep the bows downstream. Sixty or seventy miles a day, free transport. In due course one reaches the sea! The typical Saône landscape had been flat and open, the landscape of our Norfolk Broads. But as soon as I had left Lyon behind me, and was heading south on the Rhône, dark rolling hills rose spectacularly from the river-banks. For more than a hundred miles they continued—on the left side the foothills of the Alps, on the right the last low peaks of Stevenson's Cévennes—crowned here with a ruined, creeper-grown castle, there with a Romanesque church-tower, terraced with vines, patched with dark firs, and folded at sunset with cool sliding shadows.

There was only one barrier on the lower Rhône, and that was the gigantic Donzère dam. Here more than half the volume of water was canalised off to the left, so that below the dam the actual river was astonishingly shallow. Great beds of shingle lay exposed and bleaching in the sun, and the stones under water were so near the surface that I often scraped my boat upon them.

Many mid-river rocks, in fact, were above water-level and lay, their white limestone surfaces worn shoulder-smooth, like basking hippopotami or groups of Henry Moore sculptures.

I WAS entering now the region of Provence. I had seen the first cypress stuck, like an exclamation-mark, on a hill above the little town of Baix. At Pont St Esprit the fig-trees were clawing the air with the first fronds of spring; and at St Étienne there were cactus-plants and oleanders in the wooden tubs by the doorways. In both towns the roofs have red, rounded tiles like flower-pots, and there are fat, pollarded plane-trees in the little squares. If you ask for bread in the faded *boulangeries*, they say: '*Du pang? Pas ce soir. Demang matang, monsieur.*' Then you know that you are in Provence, and no mistake.

The nearer I approached to the sea, the farther the hills receded from the river, until I was canoeing, as on the Saône, through a flat landscape once again. But there was compensation in the lovely Provençal towns, with their arches and turrets and crenellations, pastel-grey and etched deeply with shadow. Roquemaure, Avignon, Beaucaire, Tarascon, Arles—in the space of a single day I saw these five. Their walls seemed to drink the spring sunshine, and in their gardens the cypress-tops bowed like dark flames in the wind.

I had set myself an objective—the Mediterranean. But the Rhône has formed a vast mud delta at its mouth, and through this delta I had now to canoe. How those last kilometres dragged! There seemed nothing but the blue, empty sky overhead, the long line of willows on either hand, and the grey, and now almost currentless, Rhône stretching endlessly ahead of me. Here were no people, no boats, no birds: it was a hot, silent plain, where even the wind had dropped. I landed and walked barefoot over mudbanks netted with the fibrous roots of poplars, hoping to see the pink-feathered flamingoes of the Camargue. But there was nothing except marshland and the croak of frogs from stagnant ditches. At last, late in the afternoon, the houses and factories of Port St Louis began to stud the river-banks, and slowly, very slowly, the river opened out, the water broke into little waves, and the skyline became a perfectly straight horizon of blue water under

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a cloudless sky, open and salt-breezy. It was the sea, the sea!

NOW for the journey back. I travelled by rail, with the canoe, to Dijon, and from there to Is-sur-Tille, intending to strike the Seine at the highest point practicable. But there are snags in this sort of undertaking which can be discovered only on the spot. From Is to Châtillon-sur-Seine there is a once-daily diesel railway-carriage. I bought a ticket, stuffed my luggage into the overhead rack, and sat down unsuspectingly to watch the boat-loading. To my amazement, after one or two unsuccessful attempts to get the canoe into the luggage compartment, the porters laid it back on the platform, and the guard waved his flag. I have never jumped out of a seat so quickly. *'Mon canot!'* I bellowed. *'Pourquoi vous n'apportez pas mon canot?'*

'Il n'y a pas de place, monsieur,' came the cool answer.

I heaved my baggage down from the rack, and leaped from the moving carriage. The train clattered into the distance, and I was left, a little dazed by this unexpected development, on an empty platform.

There was nothing for it now but to roll up my sleeves and push the canoe to Châtillon. It is forty miles from Is to Châtillon, and the journey, up hill, down dale, through the Côte d'Or mountains, took me the best part of two days. My impatience to see the Seine was mounting. I pressed on, sustained by reports of its good current and limpidity. The reality was an anticlimax—a six-inch-deep stream which the good folk of Châtillon used as a refuse-dump. Was this the world-famous Seine, I asked incredulously. I was assured it was.

I HAD canoed down the lower Saône and Rhône. Now it was the upper Seine—and a canoeist on the upper reaches of any river must be prepared for trouble. On the upper Seine, I found, there were three types of obstacle—mill weirs, rock-ledges, and fallen trees.

I have just been looking through my *Canoeist's Guide to the Upper Seine*. I find that in the sixty miles between Châtillon and Troyes there were no less than twenty-eight weir-portages, or one to every two miles.

Sometimes, of course, it was possible, by standing barefoot on the weir, to slide the boat over the weeds, though at a dangerous angle. Usually, however, I had to drag the canoe right round the weir single-handed, or worse still empty it out and carry it under my arm. In such unrewarding tasks the half-hours were frittered away.

The rocks on the upper Seine are not scattered about the river-bed as they are on most mountain rivers, but are concentrated in a series of rock-ledges, spread over twenty-five miles. It was possible to gauge the drop by sound alone, and to chance the two-foot waterfalls. The three-footers were another matter. I had lost my spray-cover in the Ouche, and rather than chance another ducking I thought it prudent to pull round them. But the scenery was splendid—steep wooded banks, white foaming water, and all day long, above the roar, the nightingale sobbing its heart out.

After Courcelles, where the rock region ended, the Seine changed again in character. This was a reach which the guide-book called 'The Knot of Hell'. 'The river here', it said, 'has a very wild and lonely character.' 'The Knot of Hell' was well named. For four or five miles the river twists like a corkscrew through a vast poplar forest, and—as I learnt afterwards—many hundred trees had been flattened in the previous winter's gales. Through this labyrinth of boles and branches I struggled one whole afternoon and again the following morning. In and out of the boat; up in the trees and down again; flattening myself to pass under a low branch; threading the canoe, as one would a gigantic needle, over one trunk and under the next; dragging it through beds of thick, sunshot greenery, Amazonian in their luxuriance. I think I covered less than two miles in as many hours.

At Marcilly the Seine emerges at last from the wilderness; joins forces with the Aube; becomes wide, respectable—and oh, so dull! The current is sluggish and Seine barges pass occasionally, leaving great smudges of surface-oil, like the sheen on a beetle's back. But the Seine is a reluctant bride: from time to time she escapes the restraining hands of commerce and hides herself among the trees and gravel-beds, while the canal goes sulkily on alone.

It is along these quiet reaches that the Seine anglers multiply. Their mooring-stakes, cross-barred like rugby goal-posts and jealously numbered, succeed each other almost without

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a break. There are floating platforms too, all neatly painted, some even roofed with thatch. In the still evenings I saw wives sitting indulgently with their fishermen husbands, reading or knitting socks.

By the time I had reached Montereau, with its waterfront of warehouses, and had paddled a further six miles through what even the guide-book called a 'landscape without interest', I was ready to embrace almost any means of reaching Paris quickly, without, of course, quitting the river. And, as it happened, a means soon presented itself.

I HAVE explained that French lock-keepers won't open their locks to canoeists. So the great thing is to pass through *with a barge*. Now at St Mammès not only did I pass through with a barge, but—what could be more natural?—I held on to the barge's trailer and was drawn rapidly out of the lock in a wake of bubble and white foam. Far from showing annoyance, the bargee smiled at me encouragingly, and presently climbed down from his boat to present me with a glass of wine! And so there I remained, all afternoon and evening, watching the Seine pageant glide past me. And 'pageant' is no cliché. It was Saturday and the river beaches were gay with bathing-costumes, with flags and sunshades and tautly-pegged orange tents.

Early next morning, at the skipper's invitation, I tied my canoe up to the iron trailer, and climbed aboard the barge. And in that barge cabin I spent most of the day. There seemed little point, in fact, in returning to the canoe. Securely fastened, it was bobbing happily in the cauldron-bubble of white water behind. Father and son took turns at the great ship's-wheel, and the Seine banks went gliding past—smart hotels, smooth lawns, weeping-willows, houseboats.

Conversation with these *mariniers*, as they called themselves, opened a window on a way of life quite new to me. The boat was their kingdom, and, poor as they were, they were masters of their destiny. Originally, when the grandparents were still alive, they told me, the family had owned an old-fashioned wooden barge with a cumbersome hand-tiller. Then at the end of the First World War they had sold it and bought a German barge cheaply. This, much improved and modernised, was the barge I was travelling in. It was their whole capital, and I began to understand now the

anxiety they all showed at the locks. One small misjudgment, and this home of theirs might get damaged beyond repair.

All day conversation continued above the engine-drone. Occasionally mother, father, or son cut in to call my attention to some building of interest, or to recall some incident from their long river-faring career. War stories helped to pass the time agreeably. It was interesting to hear in what way the flood of war had affected the Seine bargemen. My host pointed out the precise spot on the Seine where the Germans had forced him to moor his boat. He told me of the twenty refugees he allowed to sleep on sugar-sacks in the hold; of the wheat cargo he smuggled through to the bakers; and of German attempts to commandeer the Seine barges for the invasion of England.

Suddenly the younger bargee, looking behind him, broke off the conversation with an oath. '*Mon Dieu! Où est le canot?*'

I rushed from the cabin. The small trailer still rode serenely behind the big barge, but the canoe had gone! The two bargees came from the cabin, leaving the wheel to Maman, and we all three looked over the wide grey expanse of Seine waters.

'*Oui, il est là!*' the younger man called excitedly.

And there, sure enough, almost a mile away now, was my old canoe, companion in so many adventures. The elder bargee nipped back to the cabin and shut off the engine. Then, climbing with me into the trailer, he stern-oared upriver to such good purpose that the perspiration was soon glistening among the grey bristles of his cheeks and chin. I was reluctant to let the old chap sweat on my account, and when we reached the canoe I got into it quickly, and this time I trailed *him*. The reason why my canoe had come adrift was now quite clear. The barge-propeller had made such a disturbance in the water that my connecting rope had worn clean through. And to close the incident, here was this good fellow emerging from the hatchway with five yards of best hemp, and insisting I take it to replace the worn rope, and 'as a souvenir'.

It was journey's end now, so I shook hands and remained in the canoe. To have paddled through the suburbs under my own steam might have been a wearing business; but to be drawn smoothly through them in a barge-wake of foam, and under a sky of unclouded blue, this was sheer delight. The last five

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miles into Paris were unforgettable—the endless chain of moored barges and cranes, the succession of gigantic bridges of all styles and pseudo-styles, culminating in the stone-embanked Isles of St Louis and of The City. There was an artistic fitness in that ending to

my long journey. The barge swung right of the islands. So I unhitched my rope and drifted left, down past the towers of Notre Dame, the sun glancing on the grey waters, and the roar and hooting of the city traffic high above me on the broad Seine quays.

It's a Boring Life

Shipworms at Work

PHILIP STREET

THE exploits of Sir Francis Drake and his famous ship the *Golden Hind* form one of the proudest chapters of English maritime history. Many of those famous old ships ended their days in battle, but no such glorious fate awaited the *Golden Hind*. Instead, she suffered the indignity of foundering at her anchorage, her stout oak planks riddled with the borings of the shipworm. A contemporary naturalist, Thomas Moffett, has left a description of the once-proud ship reduced to a crumbling wreck.

Some time ago the wreck of a 16th-century ship, its wood riddled with shipworm borings, was located in the Thames mud at Woolwich. It is believed that this may well be the wreck of the *Golden Hind*.

Inglorious though the *Golden Hind's* end may seem, it nevertheless was shared by a large proportion of ships in earlier times. Although shipwreck and fighting have always been responsible for the destruction of large numbers of ships, in the days of wooden ships a much greater number were destroyed through the activities of the shipworm.

IN spite of the enormous amount of damage that it does, the shipworm (*Teredo navalis*) is an interesting creature. Its thin fleshy body, up to a foot in length and an inch in diameter,

completely fills the burrow which it has excavated in the wood. At its front end, which is always at the inner end of the burrow, there are two small shells. These have ridged surfaces like a file, and are the tools with which the burrow is excavated. Between them projects a muscular sucker-like foot. When burrowing, the shipworm grips the end or the sides of the burrow with this foot and then rocks the two shells while pressing them hard against the wood, which is gradually scraped away. These scrapings are not wasted, for the shipworm is able to eat and digest wood.

The scraping noise made by shipworms at work can sometimes be heard by placing an ear close to a piece of infected timber. 'They gnaw with their teeth and pierce into Oakes, as you may know by the noise' is how an old 17th-century naturalist expressed it.

At the opposite end, near its opening to the exterior, the burrow suddenly narrows, so that from the outside a mere pinprick is the only evidence of the wide burrow within. For this reason an infection often goes undetected until the wood suddenly crumbles, to reveal a honeycomb of burrows. The hind end of the body is anchored to the burrow just inside its narrow entrance.

Despite its name and its worm-like appearance, the shipworm is not a worm at all, but

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a bivalve mollusc related to the oyster and mussel. In becoming adapted to a very unusual mode of life its body has become so modified that its family relationships are no longer clear from its adult structure. Its life-history, however, betrays its true origins, and also explains how it gets into a burrow with such a narrow opening. The shipworm's eggs are passed out of the burrow into the sea. The microscopic larvæ which hatch out soon form two minute shells, so that each looks like a tiny cockle about one-hundredth of an inch long. These larvæ cannot develop further unless they settle on wood, when they begin burrowing almost at once. Pressing their shells against the wood, they rock to and fro, and are soon out of sight beneath the surface.

Once inside, the transformation begins. The hind end of the body is fixed to the burrow just inside the entrance, while the front end continues to burrow. The shape of the shell soon changes and the burrow gets wider and wider, except at the entrance, where the minute opening formed by the larva remains untouched. As the burrow lengthens, so does the middle part of the body, to retain the connection between the front and hind ends. The growth rate is astonishingly rapid. In favourable conditions the tiny larva will have grown to an adult worm up to a foot in length, and have excavated a burrow of corresponding size in the toughest wood, within six months or so.

Although there may be so many burrows within a piece of wood that little of the original wood remains, the burrow constructed by one shipworm will never be found opening into another. Examination of a piece of infected timber will often show where a worm has stopped burrowing just before penetrating another's burrow, and has then gone back a little way before resuming its excavations in another direction.

The shipworm attacks not only wooden ships but also any wood submerged in the sea. Pier piles, breakwaters, and harbour works are all liable to attack and rapid destruction. The worst outbreak in modern times occurred in San Francisco harbour during the First World War. Before it was finally checked, damage estimated at 10 million dollars had been caused.

Four times in the 18th and 19th centuries severe outbreaks of shipworm in the Dutch dykes brought the country to the verge of disaster. In the light of modern knowledge

of the natural history of the shipworm an interesting explanation for these exceptional outbreaks has been put forward. It is now known that whereas the shipworm flourishes in sea-water, its activity is much reduced if the salinity of the water is lowered, as it is in the region of a river mouth. For this reason a harbour built at the mouth of a river is fairly safe from attack. The waters of the Zuider Zee normally receive sufficient river-water to keep the shipworm's activities within bounds. Abnormally low rainfall over a sufficiently long period, however, might so reduce the flow of river-water that the salinity of the Zuider Zee would rise high enough to allow the shipworm to flourish. Such evidence as is available does seem to confirm that each of the years when there was a severe outbreak was indeed preceded by a period of exceptionally low rainfall.

NUMEROUS methods of protecting submerged wood from shipworm attack have been tried, but none has proved completely successful. The Greeks and Romans often sheathed the hulls of their galleys with lead plates, and other metals have been employed in more recent times. Paints and various other compositions have also been used to cover wood and so protect it from the larvæ, while pier piles are often encased in a layer of concrete or cement. The trouble with all of these methods is that sooner or later a little of the wood surface becomes exposed through damage to the covering and so the larvæ can get at the wood. Because they are so minute, enough of them can get in through a small exposed area to honeycomb the whole piece, probably without being detected, owing to the small size of the openings they make.

In piers and harbours scupper-nailing has also been extensively used. Large numbers of broad-headed iron nails are driven in all over the submerged surface of the wood. Rust from these spreads out over the whole surface, and acts as a deterrent to the settling larvæ, being distasteful if not actually harmful to them. Impregnation with creosote has also been tried with some degree of success, but applications have to be repeated periodically, because it is slowly washed out by the sea-water.

Although the larvæ cannot develop into adult shipworms unless they settle on wood,

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they are capable of surviving for several months. During the summer there are large numbers of them drifting about in the sea. Consequently any unprotected timber stands a very good chance of becoming infected.

Another unfortunate feature of these shipworms is their ability to remain alive for a fortnight or more when a ship is dry-docked, and so continue their devastating work when the ship gets back to sea again.

There is perhaps just one thing that can be said in favour of this otherwise entirely worthless creature. It was by studying the shipworm's tunnelling methods that Sir Marc Isambard Brunel conceived the idea of constructing a tunnel under the Thames. This was his most famous achievement. Helped by his son, Isambard Kingdom Brunel, it took him eighteen years to complete, from 1825 until 1843.

ALTHOUGH it causes more damage than any other, the shipworm is not the only marine animal to destroy submerged timber by tunnelling into it. Early in the 19th century Robert Stevenson, a famous lighthouse-builder, who was the grandfather of Robert Louis Stevenson, discovered that the foundation timbers of the Bell Rock lighthouse off the Firth of Forth were being destroyed. On investigating, he found the cause to be a very tiny creature about one-fifth of an inch long. Subsequently its activities became widely

recognised as second only to the shipworm in destructive power.

This little creature, called a gribble, is a marine relative of the common wood-louse. It is easier both to detect and to deal with than the shipworm, because it confines its activities to the outer layers of the wood. Burrowing a short way in from the surface, it then turns and constructs the rest of its tunnel parallel with and a little below the surface. Large numbers of these burrows often honeycomb the first inch or so of a pile, the deeper layers remaining unaffected. Unfortunately, though, the surface layers have become so weakened that before long the movements of the water will have cleared them away. The gribbles now proceed to tunnel the next layer, which in turn will also be washed away. If nothing is done to protect the wood, they will gradually work their way right through it, layer by layer, until finally it is completely destroyed. Breakwater piles which have been nearly worked through towards the base as a result of the gribbles' activities are quite a common sight.

Whereas the shipworm lives a completely solitary life in its own burrow, these gribbles lead a more social life, a pair invariably inhabiting each burrow. They seem to have very definite notions, too, as to who should do the work, because the female is always found at the inner end of the burrow, with the male just behind her. Presumably she does all the work, while he merely keeps an eye on things!

I Love No Leafless Land

*I turn to my trees again,
And wonder that travelling men
Should seek for the barren strand,
The naked and shaven land,
The bright and the scalding sand:
This is my wonder when
I turn to my trees again.*

*I look at my leaves of gold,
Born as the year grows old,
And I marvel at leafless space,
Naked of comfort and grace,
Bold as a blow in the face:
And I wonder if I grow old
As I look at my leaves of gold.*

*As I lightly finger a bough
I marvel so deeply how
Men can look up at the sky
With never a canopy nigh
Of green leaves swinging high:
And I make to myself a vow
As I lightly finger a bough:*

*I will live in a world of green,
Where always the sky is seen
Through a roof of foliage fine,
Or the black, sharp winter's line,
Or the endless gloom of the pine:
Here will I live, serene,
Till I die, in a world of green.*

KENNETH MACGOWAN.



Glory of France

V. FOX-STRANGWAYS

'I DON'T believe it's any good, Uncle,' said Tony gloomily. 'That beastly old trout just doesn't eat flies. Perhaps he's just a cannibal.'

We were sprawled at ease on the broad, grassy bank of the mill-pool, basking in the sunshine and gazing covetously at a trout of magnificent proportions that was lying under the rushes that lined the far bank. He must be a good two pounds, I thought, and very likely a bit more—a big fish for this small stream. And he didn't look like a cannibal; he was fat and well-shaped and brilliantly coloured; in that clear water and strong sunlight we could almost count his spots. Intermittently, throughout the morning, Tony and I had offered him almost everything a well-bred trout could want; but he had never even looked interested. He was lying promisingly 'upon the fin', yet we never saw him rise, or even move out of position, to take under-water food. He just lay and mocked us. So, in spite of the half-pounder in my eleven-year-old nephew's bag and the three smaller fish in mine, we felt baffled and dispirited; incompetence lay heavy as a cloak about my shoulders, and failure stared us in the face. And no doubt the fish, in his cold-blooded way, was laughing fit to bust at our

bungling. It was insupportable. We must get that fish; we must.

'Uncle,' said Tony thoughtfully, 'don't you think you could get him on a worm, if you went round to the other bank and fished from behind those rushes? He must eat worms; all trout do. It'd be easy.' He grinned wickedly.

A worm! Temptation flared up and thrilled me. Yes, of course it could be done with a worm—the smallest of enticing red wigglers dropped in just upstream of him, and carried by the gentle current, gradually sinking, into his lordship's very mouth. He'd never refuse that. A two-pounder; what triumph! And then I remembered where we were fishing, and temptation was instantly smothered. On the Admiral's water worms definitely would not do.

The Admiral is a charming host, and the kindest and most considerate of men. He takes great pride in his little stream, and likes it to be fished; and he is generous with his invitations. But he does have very strict ideas about the conduct of sport, and especially about 'fly only', and he and his stream and his trout are to be approached with propriety, and with the respect due to those who live under the shadow of the White Ensign. I shuddered to think of his reaction to a pot-hunting wormer.

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So I regarded my enterprising nephew with severity. 'Worms!' I said, with horrid smugness. 'Worms are off, young 'un, and don't you forget it. The Admiral would never ask you again. You'd be verbally keelhaunched and morally hung at the yardarm, and quite right too. Besides,' and I tried to sound convincing, 'who wants to pot-hunt? Give the wretched fish a chance. Open that lunch-bag and let's have some grub. You can try him again later on, when he's had a rest.'

What a solace is good food! Tony's mother had packed us a wonderful lunch. She is one of those rare women who really understand anglers, and is thus a pearl without price; I can never make out how my half-wit brother got hold of her. There were chicken sandwiches and shrimp patties, and new bread and butter, and some Roquefort cheese I had brought back from France the day before, and fresh doughnuts and a tin of peaches and a quart of cider. There were even some chocolate biscuits for Tony, which I much enjoyed. As we lay in comfort on the short grass, soaking in the hot sunshine and absorbing the excellent food, life seemed rosy again; contentment seeped into me, and our failure of the morning grew less important. What did uncatchable trout really matter, in country and weather like this?

It was April in Devon, and a really lovely day—one of those still, hot flushes of early spring that take one by surprise after weeks of rain and lashing gales. The air was balmy, and the sky almost cloudless. In the little valley where we lay the hedges were misted and fuzzed with new leaf. Young bracken-fronds were unfolding, the banks were starred with primroses, and the grass had lost its winter drabness and was springing with a fresher green. Far up the valley, where the stream twisted out of sight round a shoulder of moorland, curlews were calling. There was gold on the gorse; all the distances were softened by a pearly haze; in front of us a blackthorn bush splashed a froth of dazzling white blossom against the mill-pool's tarnished silver. Dragonflies gleamed bronze and turquoise as they hovered and darted over the reed-beds; the turf beneath us was old and kindly; and the sun was hot, hot, soaking deliciously into one's body. I began to feel drowsy.

My irrepressible nephew jerked me back to

consciousness. Not even that Gargantuan lunch could still his restless spirit, and he was clearly itching for action. 'Have you tried all your flies, Uncle? Every one?' He was rummaging in my fishing-bag. 'Here,' he cried triumphantly, 'what about these?' and he held out a battered Hedges and Butler cigarette-box. 'What are they?'

Reluctantly I roused myself. 'Oh, those are French flies,' I told him. 'Some I had in Savoy, and on the Doubs. That little red chap is good for rough, fast streams, and so is the scarlet-bodied partridge. Doubt if they'd be any use here, though.'

'And this?' He was holding up a fly with a whitish hackle and whisk, and a dark-brown body.

'That's really a grayling fly, I think. Fancy thing. Gloire de Neublans, they call it. Useful in the late evening, they say. I never did any good with it, in spite of its grand name, but you could try.'

'May I?' His voice was eager. 'Gloire de— That means Glory of Neublans, doesn't it? Someone must have thought it good, to give it a name like that. Mummy has some Gloire de Dijon roses,' he added rather inconsequentially. 'I had some coffee and rolls at Dijon once, on the way to Grindelwald. Jolly good. Where is Neublans?'

'I don't know. I never asked. But it could be a man, like the Greenwell of Greenwell's Glory.'

He was regarding the fly with interest; its hackles glinted in the sunshine as he turned it this way and that. 'D'you think so?' he said. 'A little, fat Frenchman, perhaps, with great black moustaches like Hercule Poirot, and a frightfully good dry-fly fisherman, much cleverer than the trout. Much cleverer than us,' he added, with the charming candour of youth. 'Uncle, what'll you bet me I don't get your old fish on this?' He was already taking the Pheasant Tail off his cast.

'I won't bet. But if you do get him, I'll give you the Gloire and all the rest of the flies in the box.' I felt pretty safe. 'Don't hammer him. Try downstream first, and come back to him towards evening. And, Tony!' He looked up. 'No worms.'

He laughed. 'All right, Uncle. No worms. I promise.'

I LEFT him, and wandered off upstream, to spend a back-breaking but reasonably

GLORY OF FRANCE

profitable couple of hours on the smaller water, where the stream leaves the moor and where anything over nine inches is a right good fish. Brambles scratched my face; the fly kept getting hung up in the bushes; and the inevitable stooping and crawling put a crick in my back as though I'd spent all day digging. But it was worth it. The curlews were still calling, and now I could see them, swooping and flashing in their spring flight. High above the valley a pair of buzzards circled and spiralled on seemingly motionless wings, and their mewing cries came faintly down the wind. The water bubbled clear and cold around my knees, and behind me the moor lifted in a smooth curve to a sky of softest blue. And I only lost three flies, and only went in over one leg of my waders. I got four quite decent fish, and felt pretty clever about it.

Halfway back to the mill Tony met me. I could see that he was bursting with excitement, and determined not to show it. He greeted me with exaggerated calm, and asked politely what luck I had had, and admired my fish. All rather unlike Tony. Something was up. 'What have you got?' I asked.

With studied deliberation he turned his bag out on the grass. There slid into my astonished view one of the best trout I have ever seen, perfectly shaped and brilliantly coloured and in first rate condition, thick and hard. It was no other than our friend of the mill-pool.

'Good Lord,' I exclaimed, 'you got him!' I fished out the little balance; the trout weighed just two pounds seven ounces. 'Well done indeed, Tony! That's a jolly good fish for any water, and must be a near record for this one. What did he take? Not the Gloire?'

He looked me in the eye, and, surprisingly, he blushed. 'Yes,' he said, 'it was the Gloire—at least, partly.'

'What d'you mean—"partly"?' I demanded. 'What have you been up to? Let's have it, now.'

'Well, Uncle,' he said, 'it was like this. I left him for a bit, as you told me. When I came back he was there, just the same, still not rising. I tried him with the Gloire; it floated right over him, no drag at all, but he wouldn't have it. Then I sent it down awash, and that was no go, either. And,' hesitantly, 'I was casting all right, Uncle, and keeping out of sight—really I was.' He paused.

'Go on,' I said.

'Well,' he continued, 'd'you remember telling me about a big fish you once caught on Dutch cheese?' I did. How one's little frailties return to mock one! 'Well, I threw in some crumbs of the lunch cheese—just to see, you know. He ate them at once. So I stripped some of the dressing off the Gloire—I was in rather a hurry—and squeezed a bit of cheese round the hook, and went over the other side and oiled up behind the rushes, and dropped it gently over—and he took it, Uncle! He took it at once! Gosh, what a splashing he made! I thought I'd never get him. He's a good one, isn't he?' and he grinned in triumph.

Mixed amusement, admiration for the boy's enterprise, and horror at the enormity of his crime in the eyes of a purist held me speechless.

He looked up with a worried expression. 'Uncle, it was all right, wasn't it? I did try the fly first, and I did catch him on a fly—rather a used-up, smelly one, perhaps.' He smiled disarmingly. 'And I can have the Gloire, can't I, at any rate what's left of it? And the others in the box? You did say so.'

'Yes, of course,' I said, 'they're all yours. And I'm jolly glad you got him. But, Tony, you'll have to answer a lot of questions; the Admiral is sure to want to know all the details. Have you thought of that?' He was going to have to do a whole lot of explaining; so, probably, was I.

His gaze was limpid. 'Don't you think, Uncle, that I might say I got it on a Gloire de Roquefort? That would be quite true, wouldn't it? No one here knows anything about French flies. Not like you do, Uncle,' he added with cunning flattery. 'If they ask, what's that, I'll say it's a whitish sort of thing you got in France. That would do, wouldn't it?'

Gloire de Roquefort! The nerve of the kid. Well, I didn't want to spoil his story, and I couldn't think up a better one myself. Besides, you can't be too tough with eleven-year-olds who have just landed two-pound trout. But, Glory of France, I hoped the Admiral would take it all right.

He did. He was interested, very much so, and he grilled Tony on the manner of that fish's capture till the web of my inventive nephew's deception almost strangled him, and he squirmed with embarrassment. But the story

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was accepted; and at least one man, hearing of it, wrote off at once to Harlow's for a dozen Gloires de Roquefort, size 1. So it all passed off harmoniously; and we are still asked to fish that stream.

But we were not allowed to get away with

everything, for the last time the Admiral invited us, he wrote:

'P.S. Tell Tony no more Gloires de Roquefort or Danish Blue Duns.' How did he know? We didn't tell. But you can seldom fool Admirals.

The Mystery Above Us

Turbulence in the Upper Air

LENSTON R. GWYNNE

IN 1944 a group of Super-Fortresses were flying to bomb the Japanese mainland. At 30,000 feet, and within sight of the target, the pilots suddenly found themselves battling against a terrific headwind. With engines roaring at full throttle, the big bombers were almost stationary. When the fuel reserves got dangerously low and the bombers were still nowhere near the target, the disgusted crews jettisoned their bombs and headed for home.

Later, in 1952, other American pilots experienced these stratospheric gales in reverse. A Pan-American Airways liner with forty-seven passengers aboard completed the flight from Tokyo to Honolulu in eleven and a half hours. This time was then eclipsed by another aircraft of Pan-American Airways, which made the same trip in nine hours, forty-eight minutes. By making use of a cyclonic tailwind the normal schedule of eighteen hours was almost halved!

Now this is not a new phenomenon. In the nineteen-thirties Professor Piccard, the noted balloonist, although he had no actual experience, voiced the opinion that these winds existed—he alluded to them as 'big brothers of our earthly trade winds'.

The first concrete proof was offered by meteorological observers who were studying the effect of meteorites passing through the upper atmosphere. Some of the bigger shoot-

ing-stars left long tails of incandescent dust, sometimes a hundred miles in length, which floated for a few seconds. One such stream was noted to be rolling away like a sea-mist over a marshy creek. It was calculated that the wind-force dispersing this dust was more than 200 miles an hour. Later, another tail was photographed and, in addition to confirming earlier calculation, this photograph also revealed that the trail was bending in great spirals. It was then surmised that the gale existed at differing heights and directions.

The last war was mainly responsible for spotlighting the need of closer study into the behaviour of this celestial oddity. With the ever-increasing efficiency of aircraft-engines and consequent higher operating-altitude came a growing number of reports from crews concerning the terrific winds and unexpected regions of turbulence. Intense research, observations, and careful sifting of these reports from all over the world have resulted in the knowledge that in the lower stratosphere exists what is known as a jet-stream.

Simply defined, this jet-stream is a global wind. Picture it as a vast, high-velocity river of air—writhing and twisting, climbing and descending, widening then narrowing as it encircles the earth. It is roughly oval in shape and may, in parts, be some three hundred miles wide. The speed on the fringe varies

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from 60 to 100 miles an hour and in the centre can reach 450 miles an hour! The depth has been charted by interested meteorologists as extending from roughly 15,000 feet to 45,000 feet. An unwelcome feature from the flyer's point of view is the unpredictable turbulence and violent gusts that are often encountered along the stream's length.

IN 1947 a team of University of Chicago weather scientists under Dr C. G. Rossby began official research on the subject. Piecing together scraps of information, they discovered that the stream encircled the world in the northern hemisphere like a child's hoop around a football. Reports indicate that there is a corresponding band south of the equator.

In a report issued by the Canadian Branch of the Royal Meteorological Society mention is made that 'severe high turbulence (in clear air) will occur on occasion along the boundaries of a well-developed jet-stream'.

Short Brothers' test-pilot, Eric Hyde, has in the course of several hundred stratosphere test-flights reported numerous cases of clear air turbulence. The gentlest form was like a high-speed car-ride over a cobbled street, while the most violent shook the instrument-panel of his Canberra so much that it was difficult to read the dials.

During an inquest held at Hertford recently the pilot of a crashed jet bomber revealed how at 32,000 feet the bomber encountered tremendous turbulence and went out of control.

Incidents such as these have given the scientists added incentive in their research. The most urgent problem to be solved is how to determine the exact position of the jet-stream at any given time. This ability would be welcomed by our guided-missile experts. From time to time sudden changes of course have unaccountably occurred during proving flight. The film from a camera in a rocket, when shown in a test laboratory, revealed that the missile had spun end over end at one stage of its climb. Guided weapons cannot be used with an assured one hundred per cent success until this wind can be accurately forecast.

B.O.A.C. has shown interest too, for they

have been steadily accumulating high-altitude flying reports. The highest wind-speed recorded during these flights was nearly 400 m.p.h. But it is the unpredictable turbulence that has prevented the experiment of using the jet-stream as a means of cutting the flying-time on several routes.

Practical steps have already been taken by scientists in this country. A network of eight stations designed exclusively for research in the upper layers are being built and cover an area from Cornwall to the Shetland Isles. Some are already in operation. A revolutionary trend in radar equipment has made it possible for meteorological balloons to be cast loose and supply, automatically, information at different altitudes.

These radio-sonde balloons carry a miniature receiver and transmitter. The information they provide is swallowed by an electronic computer and the results are seen visually on a television set. Also, written records are produced on a teleprinter. The whole flight from start to finish is controlled by an automatic radar installation on the ground. In fact, once under way the entire operation is performed without any human supervision.

The findings, apart from being beneficial to the various interested aviation bodies, may also be of use to the general public. Those of us who, with a knowledgeable air, have blamed the atom-bomb for the occurrence of atrocious weather have supporters in several meteorological experts. These experts have formed the theory that movement of great polar and tropical air masses, which determine our weather, is governed by the jet-stream. Atomic experiments both in America and Russia, they say, could well have diverted the stream and consequently affected the air masses—to our detriment.

If it is proved that the jet-stream is directly responsible, then more intimate knowledge of its behaviour will result in increasing accuracy of weather forecasts. This will no doubt displease that section of the public who rush screaming into the newspaper letter-columns every time a forecast goes astray, but it will be a boon to the majority who are undecided whether to take a bathing-costume or an umbrella.

Twice-Told Tales

LXIV.—*Buckshish!*

[From *Chambers's Journal* of April 1856]

I WAS that morning amusing myself with an electrical apparatus; and after the dervish doctor had operated, he passed me as I stood in the piazza making experiments. He surveyed the jars for a few moments with intense curiosity, and then departing to a short distance, slowly drew forth a small brass ladle, and murmured: 'Buckshish! Buckshish!'

'Buckshish! Buckshish for what?' I asked.

He made a gesture, intimating that to give alms to his order was the usual thing.

'No; I cannot think of giving you buckshish. You are young and strong; you can work at your trade.'

'I do work—hard work.'

'For whom?'

'Al'lâh.'

'But your work is profitless to both Him and yourself. I shall not encourage it. It is spoken!' pursued I with the usual Osmanli expression of decision.

I was in the midst of an interesting experiment, and I turned to my apparatus. The dervish quietly seated himself upon the ground, doubled up his feet beneath him, still presented his brass dish, and there he sat motionless as an image carved in marble. Thus things went on for the next half-hour. But I was determined not to be wearied into giving him buckshish, and his imperturbable staring had become unpleasant.

'Just bid him go about his business,' said I to the dragoman.

He did so; but the dervish intimated that he should not retire without the money.

'If you do not go voluntarily, I shall be under the disagreeable necessity of compelling you,' said I.

The dervish merely gave a complacent chuckle, which said that he defied me to get rid of him.

'Very good,' replied I. 'Now mind, if I do what you will not like, it is not my fault.'

I had a large coil-machine on the table before me, which, as those acquainted with such apparatus know, tortures the nerves beyond the power of the strongest man to endure voluntarily more than a few seconds. I laid hold of his dish with the conductor, and, by way of a sample, gave him a moderate dose from a smaller battery. He laughed, derisively, saying: 'Al'lâh el il l'Al'lâh!'

'Then here goes!' pursued I, putting the magnet into the coil, whilst the attendants crowded round to see the effect. It was instantaneous. He rolled over upon the ground with a yell-like 'Al'lâh-hou!' The arms quivered in their sockets; the dish, which now he would fain have let go if he could, flashed about in his convulsed hands like a rocket; the countenance was distorted with pain and rage. In a few moments, feeling satisfied that he had had enough, I released him from the coil. He rose, and, nearly upsetting the dragoman in his flight, leaped down the steps into the garden. There, being at what he considered a safe distance, he turned, and a more liberal allowance of curses never fell to the lot of any man than those which he bestowed on me. He prayed, his face livid with passion, to Al'lâh that I and my stock might be withered up, root and branch; that I might be, ere twenty-four hours had elapsed, smitten and covered with boils and ulcers! Now he turned his attentions to the women in my family. These he cursed from my great-grandmother to my great-granddaughter; and, finally, he wound up with a fervent prayer that my wife might prove anything but faithful or fruitful; or that, if the latter petition failed, my issue might be to me the bitterest curse that ever fell to the lot of a father.



Mr Baker's Mission

Sir LAURENCE GRAFFTEY-SMITH

THE night express for Bordeaux, Biarritz, and the Spanish frontier seemed monstrously long to Mr Aubrey Baker as he walked with his heavy suitcase past the twinkling sleeping-cars, looking for a second-class carriage for his journey to Tours. The interminable platform of the Gare d'Austerlitz, like the stern face of the Customs officer at Dover and the nagging weight of the suitcase, became part of the nightmare of this undesired and alarming journey, now, thank Heaven, so nearly ended.

As he changed the suitcase to his free hand, Mr Baker, not for the first time since the fatal telegram had reached him, felt a fierce little flush of resentment against his noble employer.

Two days ago—but it seemed like two weeks—it had pleased Lord Diggory to summon his private secretary from the comfort of his suite in Diggory House to the picturesquely historical but lamentably alien province of Touraine, where his Lordship was shooting pheasants with some French friends. Mr Baker had heard much praise of the loveliness of the Loire valley and its châteaux, and had been shown more than one proud snapshot of pepper-pot turrets reflected in a dreaming moat. He would have been happy to leave it at that. He disliked travel, even in England:

the tiny nervous strains of timetable connections upset him. He certainly saw nothing pleasurable in travelling abroad, for he spoke no foreign language and became acutely uneasy when addressed in French. He might, even so, have steeled himself to some appearance of satisfaction; he might at least have tried to enjoy the scenery, but for the very real and frightening pressure of responsibility laid upon him by his instructions.

He found, at last, a second-class coach and alpenstocked himself up and into it with his umbrella. An empty non-smoking carriage engulfed him. His suitcase, which held the chief of his anxieties, found a place on the rack, and Mr Baker collapsed gratefully into a corner-seat.

IT was typically inconsiderate of his Lordship, Mr Baker thought, to charge him with such a mission. There had been other distressing examples of Lord Diggory's insouciant flouting of convention; and though, as had to be admitted, the old gentleman's most eccentric schemes never seemed to go wrong, they involved Mr Baker in agonies of apprehension. Once he had had to preside over a fruit-barrow in the Charing Cross Road, while Lord

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Diggory, obscenely clad, sold matches by his side, in order to win some idiotic bet. Then there had been the Incident of the Interrupted Sermon in Westminster Abbey, and the Scandal of the Bogus Obituary Notice, and that awful business with the income tax inspector, and how many more! But this time everything seemed intolerably worse, because there were, let's face it, international complications. The telegram was in his pocket, but he had no need to reread it: he knew it by heart. BRING CONTENTS RED BOX TO CHANCEAUX BY THURSDAY EVENING WITHOUT FAIL NO FORMALITIES OF ANY KIND SHOULD DELAY YOU. Those were his horrid instructions. Horrid because 'red box' must refer to the red morocco case which held the Diggory emeralds, and that bit about 'no formalities' could only mean that he was under orders to get the necklace out of England and into France without official knowledge or sanction. To smuggle the emeralds, in fact. There was no other word for it.

So the necklace had gone into a large bottle of fruit salts, and this in turn had been packed into one of Mr Baker's bedroom-slippers. Neither the British nor the French Customs had asked him to open his suitcase. This Mr Baker accepted as an answer to prayer.

'Are you taking any articles of value out of the United Kingdom?' the grave man with the scarred face had asked at Dover.

'Only this little gold tiepin,' Mr Baker had replied, with his nervous stutter. 'And, of course, these links, only they're not real gold.' And so he had been waved on, a criminal by the laws of England.

At Calais, the Customs examination had been extremely cursory, and he had offered no correction of the official's assumption that he had only strictly personal effects with him.

THE train was filling up. A very stout nun, with a pale-faced little girl, came into Mr Baker's carriage. They were joined by a young Army officer, and then by two couples fresh from the station buffet, who were travelling together and talked very loudly. An atmosphere blended of wine, garlic, and the Lesser Cat House began to offend Mr Baker's nostrils.

Two young men in black turtle-necked pull-overs and kaleidoscopic tweeds tried to come into the compartment at the last moment. To Mr Baker there was something sinister in the

way they stared straight at him, and then at his suitcase, now half-buried beneath overcoats and hat-boxes. They looked like a couple of young tiger-cats. He thought he read suspicion, challenge, even recognition, in their eyes, and was suddenly afraid. To his relief, nobody attempted to make room for them, and as they moved back into the corridor the train jolted heavily and started off. Suburban lights began to flash faster and faster by. Mr Baker, who had no intention of sleeping on his two-hour journey, settled down to read a Penguin.

A LITTLE before midnight the train made its first stop, not, as Mr Baker had expected, at Tours, but at a small station called Saint-Pierre-des-Corps, which seemed to be the destination of a great many passengers. The little girl and the fat nun, as well as the young lieutenant, got out there. So, Mr Baker noticed, did the two unprepossessing young men in loud tweeds, for he saw them, as the train pulled out, racing along the platform after it, waving wildly and apparently shouting. Once again he had the conviction that they were personally interested in him, and he felt quite unreasonably glad to have left them behind. Five minutes later he began to collect his things, for by his calculations Tours must be very near now. He put on his hat and overcoat, lifted down his umbrella and the embarrassing suitcase, and sat awkwardly, holding everything on his knees. The noisy quartette had long since relaxed into sleep, if not into silence—the two men were snoring musically.

And now another horror was added to the nightmare of the journey. Time moved gently but relentlessly, far beyond the scheduled hour of arrival at Tours. Mr Baker sat staring in helpless silence at his sleeping companions. They were still asleep, and he was almost frantic with anxiety, when the train made its next stop, at Poitiers, shortly after 1 a.m.

It took the united efforts of both French couples, much vivid gesticulation, and, finally, a diagram drawn on the back of a hotel-bill, to explain to Mr Baker that Tours, being a railhead, is by-passed by all through express-trains. Passengers by the *rapide* must take or leave the train at the suburban station of Saint-Pierre-des-Corps, which is connected by a shuttle-service with the terminus at Tours.

Conflicting advice was offered. The two men advised Mr Baker to sleep on until

MR BAKER'S MISSION

Bordeaux. The two women favoured his earliest possible return to Tours, where they doubtless thought he was awaited by some gaunt English miss. He decided to leave the train at Angoulême, the next stop after Poitiers, and to make his way back to Tours next day.

By the time he had paid excess-fare at Angoulême, at the awful hour of 2.30 a.m., found a hotel-bed, tossed and twisted in it through a sleepless night, sampled the local version of tea with his breakfast rolls, and waited over two hours for a telephone-call to Lord Diggory at Chanceaux, Mr Baker's manifestations of mingled fury and frustration were an epic spectacle. His response to tentative suggestions of a personally-conducted tour of the Cathedral and the Promenade des Ramparts shook even the hall-porter.

LORD DIGGORY was, for once, brief and business-like on the telephone. He told his secretary to attempt no further adventure by rail, but to hire a car and come at once.

The 150-miles separating Angoulême from the village of Chanceaux-sur-Choisille were all too short for Mr Baker to compose his tortured mind. On arrival at the château he stuttered angry apologies to his employer, whom he found elegantly recumbent in the shade of a vast cedar.

'Relax, my dear Aubrey, relax,' said Lord Diggory. 'I take it you have the emeralds?'

'Of course, sir. And if I may say so—'

'Well, I'm afraid I've given you a great deal of trouble for nothing, and I can only apologise. You must try to forgive me, Aubrey.'

'For nothing?' Mr Baker's cup began overflowing again.

'Perhaps you had better let me explain quickly. The emeralds came into my family when a Diggory in Stuart times married a de Chaille heiress. Nicky de Chaille, the present Duke, who has been with us here for the shooting, begged me to let him have a look at them before he had to go back this morning to his dreary legation behind the Curtain. He says that the necklace appears in more than one of the de Chaille family portraits. But alas, you were too late. He's gone.'

'It was a great deal to ask of me, sir, telling me to smuggle the necklace here,' Mr Baker said with the most reproachful respect.

'I know, my poor Aubrey, I know. It was very stupid of me indeed. I wouldn't have

thought of whistling you over if Auguste hadn't butted in and told me that he could just catch the local postmaster if I wanted to send you a telegram.'

'Who is that, sir?' Mr Baker asked. 'Monsieur de Chanceaux?'

'Good Lord, no! Auguste is the butler here. A remarkable chap. He'll probably lead the next French Revolution. Knows everything about everybody. Now, Aubrey, how are you going to get that necklace back into England, may I ask?'

Mr Baker had no immediate ideas about that—or anything else.

'Well,' said Lord Diggory, 'I suggest that you stay on here till I go—that's in four days time—and we'll travel back together. I'll look after the emeralds this time. I think I'd better leave them at the Embassy in Paris until I can arrange to get them back into England. That shouldn't be difficult.' He was as airily confident about this as if every Queen's Messenger were his personal slave and the united administration of the British and French Customs his washpot. 'I may not even take the matter up officially,' he continued. 'Young Tony Prendergast is a Second Secretary at the Embassy and I have reason to know that he would perform any illicit act in order to get an invitation to my girl Diana's coming-out party. He can pop the things in the diplomatic pouch, addressed to my nephew Charles in the Foreign Office, and that's a young man who had better not try and make any difficulties for me.'

Mr Baker thought all this highly improper and ventured to say so.

'Leave it all to me,' said his employer, soothingly. 'You've had quite enough bother already. I'm very sorry about your odyssey, but anyone else would have managed to get out at the right station. The trouble with you is that you're unlucky. Look what happened that time in Bristol!'

Mr Baker shuddered at the memory.

'Unlucky,' mused his Lordship. 'That's what you are. And always will be. Now I'm different. I'm one of the lucky ones. So please relax, and well, you might as well see some châteaux, now you are here.'

And this Mr Baker proceeded to do, finding unexpected pleasure in being driven all over Touraine in an enormous limousine at excessive speed and on what he always thought of as the wrong side of the road.

Auguste, a moon-faced, shifty-eyed fellow

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whom Mr Baker considered less pleasant than efficient, offered various suggestions for his entertainment after dark, but these, once understood, were firmly refused.

IT was only half-an-hour before they were due to leave for Paris that Mr Baker discovered that he had no labels. After some fruitless ringing of bells, he explored the world behind the baize door that shut off the servants' quarters and found his way to the butler's room. Auguste was not there, and for this Mr Baker was instantly grateful. He could hardly have concealed his shock and surprise at the sight of the framed photograph on the mantelpiece. It was a photograph of two tough-looking young men in turtle-necked pullovers and tweeds. Their faces were entirely familiar to Mr Baker. An inscription, scrawled across the studio sky, read: '*À notre cher Papa—Pierrot et Frédéric.*'

Mr Baker left the room hurriedly. He found he had much to think about. He thought of the smooth butler, who 'knew everything', the father of two obviously criminal types, deftly influencing Lord Diggory to telegraph for his emeralds and knowing exactly where and when to intercept them on the way. He thought of those two spivs, hard-mouthed and granite-eyed, trying to join him in his railway-carriage. He thought of himself, ignorant and vulnerable, in the dark confusion of Saint-Pierre-des-Corps; in the slow, creeping shuttle-service into Tours; among the jostling crowds in the station there; hunting for a taxi at that midnight hour; driving through lonely country lanes out to Chanceaux. He had a sudden vision of himself, robbed certainly, assaulted probably, perhaps murdered.

It dawned on him that, though he had not, perhaps, been very clever, he had not been so unlucky, after all.

Reclaiming the African Deserts

LANGSTON DAY

AS the population of the globe increases with accelerating speed, the need for new food-raising regions becomes more and more acute. Most of the world's arable land, if it is served with sufficient water, is already under cultivation. There remain the vast desert tracts, particularly in North Africa. Can something be done with them?

The problem is so pressing that Unesco has set up an International Arid Zone Research Council. At its first meeting in 1950 it recommended commissioning experts to write reviews of the research work which is being done in hydrology in the various arid zones of the world. Towards the end of 1953 some of these reports were published, among them one by M. Georges Drouhin, Director of the

Colonisation and Hydraulic Service in Algiers. It is little short of sensational, for it shows that the desert can be made to 'blossom like the rose' and that a large part of the North African continent could be completely transformed.

Take for instance the enormous stretches of land lying round about Timbuctoo. In days gone by the Niger was two rivers, the first of which rose in the Guinea Mountains and drained into a closed basin ending in a vast inundation of the Sahara Desert. Because of the existence of a huge delta beside this inland lake there was once a flourishing population in the Niger country. In fact, there is historical evidence that all this region was inhabited and prosperous until only a few

RECLAIMING THE AFRICAN DESERTS

centuries ago. But gradually the lake dried up, the old delta disappeared, and the two rivers became one.

Investigations begun in 1920 showed that the soils here were excellent for certain main crops, particularly rice and cotton, and that by constructing suitable dams and canals it would be possible to restore the fossil delta of remote antiquity to something like its former condition. Already this great work is far advanced. Great tracts of land are coming under cultivation again, new villages are springing up, and dry lake bottoms are being converted into pastures. Before very long it is hoped to convert the Niger into a second River Nile.

Still more extraordinary prospects are offered by what has been learned recently about the movement of water under ground.

In North Africa there are immense closed basins with no outlets to the sea, such as the Tanezruft, Chad, Fezzan, and Kufra, and a number of smaller ones in the high tablelands of Oran and Constantine. The rainfall in these regions is very small. In the Fezzan and Kufra basins it is only about 12 mm. a year and in Tanezruft no more than 34 mm. But this is offset by the vast area of these basins, which totals about 7 million square kilometres, and the possibility of their being fed underground from further afield.

WHERE does the water go? A great deal of it evaporates owing to the extreme heat, but by no means all of it. A very large amount of water is now believed to seep down to lower levels and travel underground to distant regions.

Although since time immemorial there have been stories of water lying underneath the Sahara Desert, in recent times these have usually been regarded as myths. But as a result of exploratory boring scientists have now discovered that there are huge subterranean marshes and lakes which are held by sandstone strata of enormous thickness running at different depths under the burning sands. These layers may be compared to gigantic sponges, some of them as massive as mountain-ranges.

One of these 'sponges', the Intercalary Continental Formation, or Nappe Albiane, as the French call it, stretches from the southern slopes of the Atlas Mountains to the Tadmaït range on the southern boundary of

Algeria; and for all we know it may continue into the heart of Central Africa. From Tripolitania in the east it extends to the mountains of Morocco in the west. It underlies the Great Erg, or Great Sand Sea, and plunges to great depths below the grim valley of R'hir, which is the lowest part of the Sahara.

Evidence of underground water supplies has long been extant in the ancient wells. The northern part of the R'hir valley is watered in this way, for here is where the celebrated 'Finger of Light' dates are grown. In the old days before the advent of modern mechanical methods artesian wells, some of them more than 150 feet deep, were sunk by hand. There was, and still is, a special race of professional well-borers known as the R'tassin divers who carry out this difficult and dangerous work. Soon after the beginning of the French occupation venturesome French pioneers began to bore wells with mechanical equipment and, although their efforts are considered primitive to-day, they produced very good results.

AT the present moment French scientists and engineers are planning to exploit this and other desert regions in a thoroughly methodical manner. They have the triple task of sinking permanent wells whose output can be regulated and used in the most economical way, blocking up the ancient wells from which the precious water often escapes into salty deposits, and providing systematic drainage.

The whole problem of desert reclamation bristles with difficulties. In Algeria the water in many of the old artesian wells has fallen so much that the authorities have almost come to the point of forbidding any more boring. Why this falling off in the water-levels? It may be due to the silting up of the inlets, or to too many wells in close proximity. On the other hand, investigations made in the last few years show that the water supplies underground are far greater than was originally supposed, and that a great deal of the water finds its way to the 'shatts' where it oozes to the surface and evaporates.

Some of these shatts are of immense size. The Shatt esh Shergui, which lies in north-west Algeria, has a catchment area as big as Switzerland, and of the 500 million cubic metres of water which reach it every year

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about half is lost by evaporation. The Shatt el Jerid in Tunisia is even bigger. One of the problems which the hydrologists are trying to solve is how to make use of this water instead of allowing it to evaporate.

Underground, the various geological strata are so confused that precisely what happens to the water is a matter of immense complexity. M. Drouhin says in his report that the lie of the land on the surface is hardly any guide to the subterranean hydrology. On the other hand, the results of exploratory boring with modern equipment are so promising and the supplies of water below ground are so much greater than was supposed that the hydrologists are full of optimism. Often when a well is sunk in the burning sands the well-shaft breaks through into a subterranean lake where the water is under great pressure. It spurts upwards in a huge fountain with the force of an oil-gusher, and the desert which seemed so arid and unpromising is soon miraculously producing crops.

A well sunk not long ago at Zelfana, some 80 miles from the desert outpost of Ghardafa on the eastern slopes of the Mozabite Mountains, produced such a gush of water that there is already an oasis and a small colony around it. There is some 80 metres head of water at the surface, while a new well at Guerrara near by has 100 metres head of water. This region is at just about the mid-point of Algeria and among the most desolate places on earth. Such results have caused M. Drouhin to write with almost lyrical enthusiasm.

'It is now known,' he says, 'that in a broad belt running north and south it is possible where the Albian formation can be reached without prohibitive cost and where the ground is sufficiently low . . . for artesian wells to create new oases wherever there is a sufficient area of cultivable land in the vast dead valleys running from the mountain backbone to the Qued R'hir depression, and to bring life to a howling desert. The first operation will be begun next autumn (1954).'

He points out that wherever exploratory boring has been carried out the results have nearly always been most hopeful. In the low-lying plain of Relizane in Oran boring 'has confirmed the possibility of supplying an extensive area from artesian wells.' Some 40 deep borings in the Gharb Plain, Morocco, made in the last four years, have proved the existence of 'an extremely important source

of supply with a possible potential yield of several scores of cubic metres per second.' And the Grombali Plain, south-east of Tunis, has been minutely explored, revealing 'immense subterranean water resources easily accessible by borings of 100 to 150 metres at most.'

Up in the high plateaux between the Tell and the Atlas ranges the problems are a little different. Here the water is needed chiefly for itinerant flocks of sheep. A very big programme is now in hand to modernise the existing watering-points and sink a great many more wells. In the southern part of Oran alone there will be about 400 watering-points, and some hundreds more in Algeria and Constantine.

One of the greatest problems is how to raise the water quickly enough to serve some huge passing flock. Various types of wind-mill pumps have been tested, but it seems that hopes are now centred on a new kind of solar energy motor.

'We can look forward with confidence,' says M. Drouhin, 'to being able to supply the high plateaux themselves, and more important the rich low-lying plains of the semi-arid Tell zone, with sufficient water either from pumping-stations or artesian wells completely to change the economic and human geography of a vast area of western Algeria.'

He goes on to say that a beginning is being made in a 'conclusive experiment' which involves both industry and agriculture on a pretty large scale. If it succeeds it will no doubt serve as a working-model for all countries which are interested in desert reclamation.

NOT only is the world faced with problems of food shortages; it must also soon come to grips with how to deal with overcrowded territories. The solution may lie in the deserts. Man-made oases can be created to order. But can people be persuaded to go and live in them?

The answer seems to be given by recent events in the semi-arid regions of Senegal. As early as 1938 a modern programme of boring was begun and water under pressure was struck at about 700 feet. There are now some 10 wells, each with a diesel-engine pumping-station. And around each one of them a village has spontaneously sprung up in what was formerly a desert.



The Palkis of Anantpur

SHELAGH MACMULLEN

I WAS spending a few days in the town of Mandi, the capital of the mid-Himalayan state of that name, when I came upon this old tale set down in an ancient volume long out of print and crumbling with age and use.

In the year 1637 Suraj Sen succeeded his father as Raja of Mandi. He was an ambitious man, bent on enlarging his boundaries and on being all-powerful within them. He carried on the age-old conflict of his predecessors against those barons and nobles of the land, the ranas and thakurs. These continued in their powerful independence, but their constant intrigues against each other, their jealousies and feuds, had begun to diminish their number, and gradually their power was broken as, one by one, Suraj Sen subdued them and annexed their lands. At last only one defiant chief was left. He was the Rana of Anantpur. He survived because he had a castle which from its natural position, its power within to withstand a siege, and its strong outer forts and lesser works was deemed impregnable. Suraj Sen decided that the stronghold would be too difficult and costly to capture and was reluctantly obliged to leave the Rana alone.

At this time Suraj Sen's chief minister was one named Jalpu, who was cunning as well

as unscrupulous in his service. Honours had been heaped upon him, and he had become wealthy and lived in great state, and all men went in fear of his power and influence with the ruler. But the favour of princes is, as we know, often fickle, and the day came when Jalpu fell from grace. The Raja became greatly angered with him over his handling of some affair of state and before the whole court he was sent in disgrace from the presence of his master, and soon afterwards divested of his functions and power.

THE ex-minister was exceedingly disconsolate and bewildered, and quite unable to bear the humiliation of his descent from his former high estate. He decided to leave court circles and the town of Mandi behind him for ever and to retire into the country. It was then that he thought of the Rana of Anantpur residing in remote security in his impregnable castle. So one day he disappeared and went very secretly into the district near the fortress, and from there he sent a trusted messenger to the Rana telling him of what had occurred and begging him for an audience. The Rana thought the matter over for a while. He was curious and

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wanted to hear all about the affair, so he sent for the ex-minister to be brought before him.

Jalpu created a good impression, for he was obviously an able man, and the Rana listened with sympathy to the story of unjust treatment and public disgrace suffered at the hands of the ruler in return for great and faithful service. Jalpu was filled with bitterness and consumed with desire for revenge. The Rana thought it not at all a bad idea to give the ex-minister a helping-hand, and he allowed him to reside in hiding at Anantpur.

After a few months the good impression Jalpu had created had in no way diminished, so he was permitted to enter the Rana's service. Jalpu, being a clever man, soon rose from a comparatively humble position to a high one once again. The Rana began to rely on him more and more, until finally he became comptroller of the Rani's household, which office he performed with his usual efficiency and faithfulness. The Rana congratulated himself on having found a treasure.

THERE was within the fort a shrine to the goddess which the Rana and particularly the Rani, and all their followers, held very sacred and for which Jalpu during the course of his sojourn at Anantpur had also come to feel great veneration. He often wished rather wistfully that his own wives and daughters could come and worship there too.

As time went on this idea grew upon him so much that at length he disclosed the great wish of his heart to his master and mistress and begged permission for the ladies of his household away in exile in Mandi to make a pilgrimage to the shrine for the purpose of honouring the goddess with their devotion. The Rana granted the request, and Jalpu joyfully sent a messenger to his women-folk to make all preparations necessary for the journey. Apartments were put in order with all speed for the reception of the visitors and their retinue of servants.

On the day appointed for the devotion,

Jalpu watched from the ramparts the slow approach over difficult hilly ground of the closely-curtained palkis or palanquins that contained the ladies of his family and their female relations. In his day he had been a very great man at court and the ladies for whom he had assumed responsibility were many. There were eighteen palkis in all, which, allowing for several wives and an equal number of mothers-in-law, some daughters and a few odd grandmothers, was not out of the way.

Each palki had five men on either side to bear it up the steep slope to the castle. The palkis were admitted at the gate as they arrived one by one. No sooner, however, were they all inside the fortress than the bearers unceremoniously dumped down their palkis and tore apart the curtains, to reveal, not ten soft and luxurious ladies, but ten complete sets of armour and swords. These they put on with lightning speed and attacked the unsuspecting garrison before they could recover from their astonishment.

Great confusion ensued, and the one hundred and eighty picked soldiers of the Raja of Mandi disguised as palki-bearers pressed home their advantage under the able command of the Rani's comptroller. The Rana, unprepared for the battle and without an adequate guard, was killed while trying desperately to rally his bewildered forces, for whom a day of religious ceremony suddenly turned into a grim struggle for the possession of the fortress was altogether too much. The impregnable Anantpur fell to the cunning of Jalpu, late minister of Mandi.

All that the defeated defenders were permitted to do was to prepare the pyre for the cremation of the Rana, and on that pyre the Rana's wife would give herself to the flames in accordance with the custom of suttee.

Before going to immolate herself, the Rani, filled with loathing for the treacherous Jalpu, pronounced a dire and solemn curse upon him and all his descendants, and it is said that none since of his line but have been either lame, deaf, deformed, or imbecile.

Mood Indigo

*The cuttlefish has a funny kink
Of getting mad, then spitting ink.
The only way to stop his caper
Is feed the brute on blotting paper.*

D. S. F.

Science at Your Service

A PARAFFIN POURER

AN attachment for safer and cleaner paraffin pouring has been designed. Fixed to most paraffin-can spouts, it makes them automatically self-stopping and ensures controlled filling. When the paraffin container of a paraffin-burning appliance is being filled, flow is cut off immediately the liquid level in the container reaches the outlet end of the pourer; and the desired level can be predetermined by adjusting a disc in the device. This new device is claimed to make paraffin pouring quite safe even when the appliance being filled remains alight, but in practice it would probably be unwise to grasp this extreme opportunity; some disconnected event during the operation might introduce a totally different risk of fire.

The pouring attachment is made of a paraffin-resistant plastics material with limited elasticity or stretch. If desired, its diameter may be increased to give easier application to the can-spout by gently warming the end of the pourer.

A SLASHING-MACHINE FOR FARMERS

A slashing-machine, originally developed as a potato-haulm pulveriser, has been found to fit many other farmland-clearing tasks. It is effective for dealing with infestations of thistles, bracken, brambles, ragwort, and can dispose of kale stumps. Basically, three steel chains swing out under their own weight when the central shaft rotates at high speed. The chains are made of a specially strong steel that will slash through any vegetation up to small saplings. If, however, they encounter stouter opposition, they swing back without breaking. No sharpening is required; the chains are periodically replaceable at moderate cost. The machine fits standard tractors, and is designed for use on arable land and reasonably even grassland. It weighs 200 pounds, and its price is not formidable for even the small farm's machinery investment capacity. A number of farmers have reported favourably upon its performance and it has attracted much attention at agricultural shows.

CHEMICALS VERSUS SOOT

Whether soot-dispersing preparations should be preferred to regular chimney-sweeping is a subject of considerable controversy. Without venturing to take sides in this matter, the writer would mention a new product of this kind which is claimed not only to disperse chimney soot but also to prevent firescale coating on domestic boiler surfaces. It is a non-inflammable powder for sprinkling on the fire. The fact that it operates without extra flame-creation seems meritorious. A harmless gas is given off, and this reduces the ignition temperature of soot or firescale deposits; these can then be consumed by the normal fire heat. The same powder can be used in first-aid treatment for chimney fires, the gas having a smothering effect. The smaller-sized tin contains about enough material for six applications. The product seems worthy of trial, perhaps aiming at preventing soot or scale build-up rather than at obviating an already-needed visit from the chimney-sweep.

ANOTHER LIGHT-WEIGHT FOLDING-CHAIR

Easy-to-carry folding-chairs are receiving fresh attention from manufacturers. In February we described an aluminium-framed deck-chair of this type. Another company now offers an alloy-constructed armchair that weighs only 5 lb. and folds flat when not in use. It cannot collapse even if not erected in its fully open position. The seat and back-rest are of canvas in various colours, and a particularly ingenious sideline quality is the provision of handles for the back-rest, enabling this to be used as a picnic-bag during any journey to the place where the chair will be used. The shape of the chair is that of the small vertical deck-chair, not the more common long-seated deck-chair. One weakness of metal frameworks—rusting or corrosion of hinge-pins—has been minimised by making all these pins from stainless steel. At its most moderate price, this chair can be recommended strongly. In erected position it is 24 inches wide, 31 inches high, with the seat 16 inches above ground-level.

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DRAINING AND CUPBOARD RACKS

The use of plastics-covered or rubber-covered wire in the manufacture of domestic articles is already well enough known. It has two important advantages. It softens the force of impacts with fragile household articles and so greatly minimises risks of chipping or fractures, and it protects the metal from rusting and corrosion. Kitchen draining-racks made in this way by a British firm deserve mention in this feature because this modern approach of construction has been combined with good design. The two draining-racks made, one for 58 plates and saucers, the other for 32, are first-class examples of post-war progress in this domestic field. Each rack is of two-tier design, the lower tier for plates, the upper for saucers, or, if required, cups. The racks may be stood on the draining-platform of sinks or fixed to hang on the kitchen wall. There is a metal drip-catching tray in a removable position below the lower tier, but whether this is a necessary adjunct of the rack depends, of course, upon the position of fixing. With a standing position on the sink unit's draining-board, the drip-catching tray has less importance. The racks are available in two colours, with a white or red plastics covering.

The larger model will be a little too long in space-requirement for standing on the draining-platform of smaller modern sink units, which have these platforms on both sides of the sink. If a wall-suspended site is not practicable, the smaller model will be preferable. This company's draining-racks have been selected and approved by the Council of Industrial Design; examining and using one of them has confirmed the justice of this official verdict. The prices of these racks are very reasonable having regard to their high quality.

A smaller but similarly constructed article made by the same firm is a plate and saucer storage-rack for cupboard self use. This is simply a three-divisional vertical rack occupying the small space of approximately 10 by 6½ inches. Plates can be stacked in this rack vertically, with the advantage that each one can be separately removed. The usual flat-plate storage system of plate-upon-plate means that on most occasions numbers of plates must be moved in order to obtain or store a single plate. It is obvious, therefore, that with the vertical rack, time, effort, and shelf-space are saved.

CAR SECURITY

Another device to prevent car thefts has been invented. This operates by completely locking the wheels on applying the footbrake; the car thereafter cannot be driven or towed away until a key is inserted and turned in the control-lock. It is clearly stated that the device, when fitted, does not interfere with normal brake operation. It works, when a car is left, by stopping the flow of brake fluid from the master cylinder; the security lock controls a non-return valve incorporated in the device. The price seems reasonable.

FOR EMPTYING AND FILLING WASHING-MACHINES

The filling and emptying of washing-machines or washing-boilers is a cumbersome task in what is otherwise a labour-saving operation. Various sink-connecting or tap-connecting devices are marketed, but a newly-introduced one deserves special description. It works through the same principle that has long proved satisfactory for forming a vacuum-pump in laboratories, using the pressure-flow from a water-tap to create a pull in a T-piece shaped pipe-line.

For use in filling, a very short green-coloured section of the pipe-line is attached to the cold-water tap; the other and longer red-coloured section, which is continuously connected, is attached to the hot-water tap. At the joining-point of these two sections a long green section is T-piece-connected. This is led into the washing-machine. Opening the hot-water tap fills the machine.

For use in emptying, the red section is disconnected from the hot-tap and allowed to run into the sink. The long green section remains, of course, in the washing-machine. Opening the cold-water tap creates a small vacuum pressure in the side-attached pipe, which then pulls up the water from the washing-machine, so that it runs into the sink. The extent to which the cold-water tap has to be opened to produce this effect depends upon the pressure of the supply. Where the pressure is abnormally low, initiation of this emptying operation will be secured by placing the thumb over the open end of the free section in the sink for a few seconds.

The colour-marking of the different sections makes this appliance simple to use, even if the housewife cannot understand the hydrodynamic principles of operation. The rustless metal parts are guaranteed for five years.

SCIENCE AT YOUR SERVICE

A FURNITURE-STAIN REMOVER

A new product is claimed to remove from furniture surfaces such stains as those caused by hot or cold water, hot irons or hot plates, etc. This perhaps sounds too good to be true, but there is a reasonable qualification—stains or burns that have actually penetrated deeply enough to remove the wooden surface are beyond redemption. However, many of the marks that mar furniture surfaces are not as deep as this. A few tests on such marks have been carried out by the writer and the claims made for this product have been substantiated; in addition, it is a superbly-good furniture-polish, a secondary merit that is by no means trivial. There are probably many wear-stained pieces of old and good furniture that could be brought back into long-forgotten condition if given a general treatment with this material.

It is, in fact, two separate materials, each of them a polish-like paste. The stain-remover is first used, this being rubbed into the stain with a clean cloth. The surplus is wiped off and the area is then polished normally using the second material. Severe stains require a repetition of this treatment. With cellulose-finished furniture, which includes, of course, much of our modern furniture, improvements can be expected, but complete removal of all surface marks cannot be guaranteed. The best results are likely to be obtained on old furniture.

The chemical composition of the two pastes is not stated, but they are said to be developed from an 18th-century formulation used by a polisher in the Sheraton-Chippendale period. They are sold in single packets containing a small tube of each preparation.

PROTECTIVE DRESSING OF GARDEN SEEDS

Dressing seeds with fungicides or insecticides is not a new development in commercial growing. Organo-mercurial dressings for cereal seeds have been used profitably for about twenty years with substantial reduction in crop losses to soil-borne diseases. The same approach has been relatively neglected for garden-sown seeds although fungus-type ail-

ments are responsible for seed decay in the ground or the damping-off of infant seedlings. The reason for this surprising gap in crop defence is that suitable fungicides have not hitherto been available. Since the war one or two fungicidal organic substances have been successfully and fairly slowly developed. Now that their more effective fields of operation have been determined, one of these—known generally as thiram or TMTD—is eminently suitable as a seed-dressing. A leading British company has this year marketed a small puffer-pack based on this fungicide. Just before sowing vegetable seeds some of this fungicidal material is puffed into the open seed-packet. Losses through seed disease before germinating or through subsequent damping-off with emerging plants are likely to be reduced if not entirely eliminated. The pack costs very little and the quantity of material is sufficient to dress all seeds sown in a single season in the average-sized garden.

A UNIVERSAL OPENER

Dual-purpose kitchen gadgets are by no means unusual to-day, but a recently-introduced appliance can perform a diversity of tasks. It is a two-armed gadget, the arms being able to swivel outwards from the top connecting-point. This point carries an excellent wheel-type can-opener; can-opening becomes a light task with the appliance held by the arms in their closed position. Sections cut into the facing sides of the two arms provide a wire-stripper for covered insulation wiring, etc., a crown-cork opener, a crown-cork resealer, a unit for easing difficulty-tight screw-caps, and openers for jam-jar or vacuum-bottle tops. The arms of the appliance have to be opened at suitable angle for some of these sections to operate, but this also permits a range of adjustment for odd sizes. The only operation of opening that this gadget omits is that of the corkscrew. In some cases a versatile gadget of this type is only partially effective for certain tasks. Personal testing has shown this particular one to be highly efficient in each claimed function. It is stoutly made of metal and has a durable finish.

TO CORRESPONDENTS who wish fuller information regarding new inventions, publications, etc. mentioned here, addresses will be furnished, when possible, if (and only if) a stamped addressed envelope or postcard for a reply be sent to the Editor, *Chambers's Journal*, 11 Thistle Street, Edinburgh. To avoid delays, requests of this kind from correspondents abroad will be forwarded to the manufacturer or agent if stamps, postal orders, or imperial or international reply coupons are enclosed for the purpose. The issue of the *Journal* and the heading of the paragraph in which the object of inquiry is described should be given in order to facilitate reference.

Growing Tomatoes Under Glass

ONE should always aim at getting about 10 lb. of tomatoes from each plant in the greenhouse. To do this it is necessary to grow a heavy-cropping variety such as Plumpton King, The Glamis, Victory. The seeds should be sown in the John Innes seed compost, which can either be prepared at home or be bought already mixed ready to use. To make up a true John Innes compost it is necessary to sterilise the soil first. This can be done by raising the temperature of the earth to between 180° and 210° F. and keeping it at that temperature for 15 minutes.

A simple method of sterilising a small quantity of soil is to fill a bucket with the earth and hang it from a crossbar in a copper of boiling water so that the water reaches to within one inch from the top. Bury a potato the size of an egg in the centre of the soil, one inch down, and when this is thoroughly cooked the soil may be regarded as sterilised. It helps greatly, of course, if the bucket is provided with a lid. Those who prefer to be more technical can use a thermometer and bury the head of it into an inch or two of the soil.

The compost consists of two parts of this sterilised soil, one part of sedge-peat, and one part of coarse silver sand, mixing with each bushel made up one and a half ounces of superphosphate and three-quarters of an ounce of ground chalk or carbonate of lime. A bushel of soil will exactly fill a box 22 inches long, 10 inches deep, and 10 inches wide. This is sufficient for nine seed-trays, each of them 14 inches by 8½ inches by 2 inches. Moisten the peat a little before mixing in with the soil, and add the superphosphate and chalk to the sand before the sand is mixed in with the other two ingredients.

It is best to sow 35 seeds per tray and to space them at 2 inches apart. Thus one can allow the resulting seedlings to remain where they are growing until they are about 1 inch high. They can be potted into 3-inch pots, this time using the John Innes compost. When potting, the seedlings should be held by the leaves and not by the stem. Plenty of crocks should be put in first and then half-a-

handful of the compost, which should be firmed lightly with the fingers. Then another handful of compost may go in, and this time it should trickle in around the roots of the plant, when it can be firmed with the first two fingers of both hands until the seedling can stand upright on its own. It helps to make the soil settle if the base of the pot is tapped occasionally on the bench as the potting on work proceeds. When the operation is over, the soil-level should be ¼ inch from the top of the pot, with the seed leaves just clear of the soil. The quicker you can pot on the better, for the plants get a minimum of check when they are moved very early.

Water lightly and put the pots on the staging of the greenhouse with the temperature at about 75° F. by day and 65° F. by night for the first week. The temperature should be gradually reduced until it is 60° F. by day and 55° F. by night. It is always useful to have a slightly higher temperature for a few days after the potting in order to help the plants recover. After, say, three weeks, the temperature can again be reduced and the ventilation increased: the aim will be to have the temperature at 55° F. by day and 50° F. by night. During a very dull period it is a great mistake to try to force the growth by using extra heat. In fact, when the daylight is poor, it is often well to lower the temperature of the house.

It takes about eight weeks from the time of sowing to the time of planting out in their cropping position if the plants are to be at the right stage. The plants should never be exposed to cold winds or draughts and the tendency should always be to give too little water rather than too much. Look out during the early stages for rogue plants. These are sometimes called feather-heads or Christmas trees because they have a feathery appearance, shorter internodes, and many more side-shoots. These feather-heads should be discarded, for they will never crop properly.

I shall be glad to help readers with their gardening problems. Write to me through the Editor, kindly enclosing a stamped addressed envelope for the reply.

W. E. SHEWELL-COOPER, M.B.E., N.D.H.

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CHAMBERS'S DICTIONARY

CROSSWORD No. 21

ACROSS

- 8 Intellectual feature and its possessor (8).
- 9 Was what is sent abroad once wine? (6).
- 10 He couldn't agree with you more (two words: 3.3).
- 11 Almost ready to fire—at a chicken? (two words: 4.4).
- 12 Band, mostly composed of rubbish (6).
- 13 Poetic part of Ireland (8).
- 15 Branch to understand (4).
- 17 Backbone on direction—of the East, of course (7).
- 19 Homeric story of the wandering type (7).
- 22 Twisted (4).
- 24 It was rounded in the milling for the pudding (8).
- 27 Bless a fur (6).
- 29 Look at us after the workroom, in an intent manner (8).
- 30 Officer of law with negative start (6).
- 31 Attitude after short work to go against (6).
- 32 How to make the land green (8).

DOWN

- 1 Take off a rich man to a T (6).
- 2 First rate to defend a cause (8).
- 3 There's room to skate in a confused test for these ornaments (8).
- 4 For this language, no colour bar—try Zanzibar! (7).
- 5 Skirt showing plenty of 'go' to start with (6).
- 6 Fragrant dealer (6).
- 7 Two in front, one behind—all going round (8).
- 14 Operatic Prince (4).

Three prizes of book tokens to the value of ten shillings and sixpence each will be awarded to the senders of the first correct solutions opened.

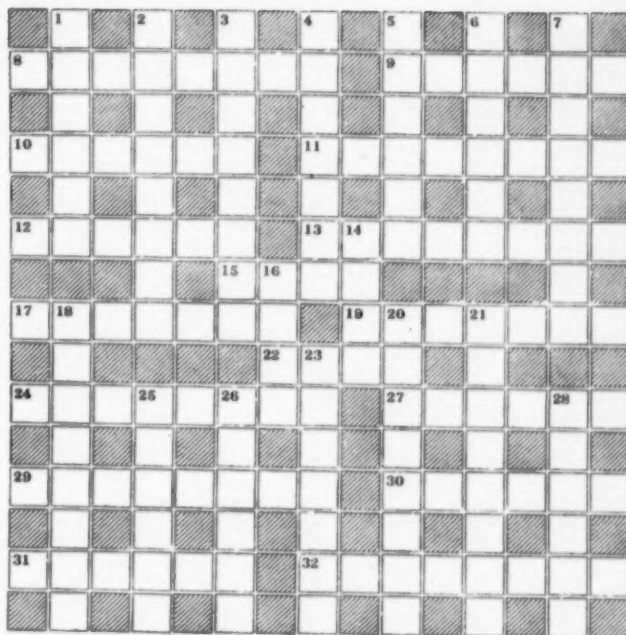
Entries must arrive not later than the 16th April.

Envelopes should be clearly marked **CROSSWORD** in the top left-hand corner. The closing date unavoidably confines the entry to those resident in Great Britain, N. Ireland and Eire.

*Supreme
for
Crosswords*

**CHAMBERS'S
TWENTIETH CENTURY
DICTIONARY**

Entries to W. & R. CHAMBERS, LTD., 11 THISTLE STREET, EDINBURGH 2



Composed by JOAN BENTON

DOWN (contd.)

- 16 Is the bairn on solid food? (4).
- 18 What a dancer leaves in his glass? (8).
- 20 Syd recoils from the doorway in illness (8).
- 21 Form of wrecking—or getting the boot in Holland? (8).
- 23 Used to be canvas—good health! (7).
- 25 Veteran of the old school (two words: 3.3).
- 26 Pressed warmly (6).
- 28 Misprints (6).

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